

# THE LIVING AGE.

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## NEW BOOKS.

HOME BALLADS AND POEMS. By John Greenleaf Whittier.  
Boston: Ticknor and Fields.

LEGENDS OF THE MADONNA AS REPRESENTED IN THE FINE ARTS. By Mrs. Jameson.  
Boston: Ticknor and Fields. [Blue and Gold.]

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## THE EVE OF ELECTION.

BY JOHN G. WHITTIER.

FROM gold to gray, our mild sweet day  
Of Indian summer fades too soon ;  
But, tenderly, above the sea,  
Hangs, white and calm, the Hunter's moon.

In its pale fire the village spire  
Shows like the zodiac's spectral lance ;  
The painted walls, whereon it falls  
Transfigured stand in marble trance !

O'er fallen leaves the west wind grieves,  
Yet comes the seed-time round again ;  
And morn shall see the State sewn free  
With baleful tares, or healthful grain.

Along the street the shadows meet  
Of Destiny, whose hands conceal  
The moulds of fate that shape the State,  
And make or mar the common weal.

Around I see the powers that be.  
I stand by Empire's primal springs ;  
And princes meet in every street,  
And hear the tread of uncrowned kings !

Hark ! through the crowd the laugh runs loud,  
Beneath the sad, rebuking moon ;  
God save the land a careless hand  
May shake or swerve ere morrow's noon !

No jest is this ; one cast amiss  
May blast the hope of Freedom's year.  
Oh ! take me where are hearts of prayer,  
And foreheads bowed in reverent fear !

Not lightly fall beyond recall,  
The written scrolls a breath can float :  
The crowning fact, the kingliest act  
Of freedom, is the freeman's vote !

For pearls that gem a diadem,  
The diver in the deep sea dives ;  
The regal right we boast to-night  
Is ours through costlier sacrifice.

The blood of Vane, his prison pain,  
Who traced the path the pilgrim trod ;  
And hers whose faith drew strength from death,  
And prayed her Russell up to God !

Our hearts grow cold ; we lightly hold  
The right which brave men died to gain ;  
The stake, the cord, the axe, the sword,  
Grim nurses at its birth of pain.

Your shadows rend, and o'er us bend,  
O martyrs ! with your crowns and palms,  
Breathe through these throngs your battle-songs,  
Your scaffold prayers and dungeon psalms !

Look from thy sky, like God's great eye,  
Thou solemn moon, with searching beam,  
Till in the sight of thy pure light  
Our mean self-seeking meaner seem.

Shame from our hearts unworthy arts,  
The fraud designed, the purpose dark ;  
And smite away the hands we lay  
Profanely on the sacred Ark.

To party claims, and private aims,  
Reveal that august face of Truth,  
To which are given the age of Heaven,  
The beauty of immortal youth.

So shall our voice of sovereign choice  
Swell the deep bass of duty done,  
And strike the key of time to be,  
When God and man shall speak as one !

## SKYWARD.

BY SARAH WARNER BROOKS.

" With his nest down in the gorses,  
And his song in the star-courses,"  
—Mrs. Browning.

THE mist on the meadow lies heavy and cold ;  
With its veil on his forehead, the day-god hath  
risen—

Fair dawn hath forgotten her girdle of gold,  
And the sunbeams laugh not through the walls  
of their prison.

From his dream in the clover, up-springeth the  
lark !

He shaketh the cool tears of night from his  
wing,

One faint little chirrup he gives in the dark,  
Then away to the welkin he soareth to sing !  
Skyward—still skyward.

Like an arrow he shoots through the shimmering  
blue,  
Skyward, still skyward!—his pinions are  
strong—

And silvery clear as the dropping of dew,  
On moon-lighted roses down raineth his song ;  
At the fair " walls of Jasper " he beateth his  
wings,

Where the gold harps are hymning, serenely  
and clear—

The high hallelujah hath swooned on their  
strings,

While the wondering minstrels are bending to  
hear !

Skyward—still skyward !

O poet ! stay not in the meadow of dreams,  
In the valley below where the mist is unfurled,  
And the God-light breaks not with its soul-kind-  
dling beams !

Oh, stay not ! to twitter and chirp to the world,  
But soar—like the lark from night's chrim of  
dew—

Skyward, still skyward!—thy pinions are  
strong—

And singing, serene in the summary blue,  
Drop low in the valleys the rain of thy song—  
Skyward—still skyward !

From Fraser's Magazine.

## CONCERNING TWO BLISTERS OF HUMANITY.

BEING THOUGHTS ON PETTY MALIGNITY AND PETTY TRICKERY.

It is highly improbable that any reader, of ordinary power of imagination, would guess the particular surface on which the paper is spread whereon I am at the present moment writing. Such is the reflection which flows naturally from my pencil's point as it begins to darken this page. I am seated on a manger, in a very light and snug stable, and my paper is spread upon a horse's face, occupying the flat part between the eyes. You would not think, unless you tried, what an extensive superficies may there be found. If you put a thin book next the horse's skin, you will write with the greater facility: and you will find, as you sit upon the edge of the manger, that the animal's head occupies a position which, as regards height and slope, is sufficiently convenient. His mouth, it may be remarked, is not far from your knees, so that it would be highly inexpedient to attempt the operation with a vicious, biting brute, or indeed with any horse of whose temper you are not well assured. But you, my good Old Boy (for such is the quadruped's name), *you* would not bite your master. Too many carrots have you received from his hand: too many pieces of bread have you licked up from his extended palm. A thought has struck me which I wish to preserve in writing, though indeed at this rate it will be a long time before I work my way to it. I am waiting here for five minutes till my man-servant shall return with something for which he has been sent, and wherefore should even five minutes be wasted? Life is not very long, and the minutes in which one can write with ease are not very many. And perhaps the newness of such a place of writing may communicate something of freshness to what is traced by a somewhat jaded hand. You winced a little, Old Boy, as I disposed my book and this scrap of an old letter on your face, but now you stand perfectly still. On either side of this page I see a large eye looking down wistfully; above the page a pair of ears are cocked in quiet curiosity, but with no indication of fear. Not that you are deficient in spirit, my dumb friend; you will do your twelve

miles an hour with any steed within some miles of you; but a long course of kindness has gentled you as well as Mr. Rarey could have done, though no more than seven summers have passed over your head. Let us ever, kindly reader, look with especial sympathy and regard at any inferior animal on which the doom of man has fallen, and which must eat its food, if not in the sweat of its brow, then in that of its sides. Curious, that a creature should be called all through life to labor, for which yet there remains no rest! As for us human beings, we can understand and we can bear with much evil, and many trials and sorrows here, because we are taught that all these form the discipline which shall prepare us for another world, a world that shall set this right. But for you, my poor fellow-creature, I think with sorrow as I write here upon your head, there remains no such immortality as remains for me. What a difference between us! You to your sixteen or eighteen years here, and then oblivion. I to my threescore and ten, and then eternity. Yes, the difference is immense; and it touches me to think of your life and mine, of your doom and mine. I know a house where, at morning and evening prayer, when the household assembles, among the servants there always walks in a certain shaggy little dog, who listens with the deepest attention and the most solemn gravity to all that is said, and then, when prayers are over, goes out again with his friends. I cannot witness that silent procedure without being much moved by the sight. Ah, my fellow-creature, *this* is something in which you have no part! Made by the same Hand, breathing the same air, sustained like us by food and drink, you are witnessing an act of ours which relates to interests that do not concern you, and of which you have no idea. And so, here we are, you standing at the manger, Old Boy, and I sitting upon it; the mortal and the immortal; close together; your nose on my knee, my paper on your head; yet with something between us broader than the broad Atlantic. As for you, if you suffer here, there is no other life to make up for it. Yet it would be well if many of those who are your betters in the scale of creation, fulfilled their Creator's purposes as well as you. He gave you strength and swiftness, and you use these to many a valuable end:

not many of the superior race will venture to say that they turn the powers God gave them to account as worthy of their nature. If it come to the question of deserving, you deserve better than me. Forgive me, my fellow-creature, if I have sometimes given you an angry flick, when you shied a little at a pig or a donkey. But I know you bear me no malice; you forget the flicks (they are not many), and you think rather of the bread and the carrots, of the times I have pulled your ears, and smoothed your neck, and patted your nose. And forasmuch as this is all your life, I shall do my very best to make it a comfortable one. *Happiness*, of course, is something which you can never know. Yet, my friend and companion through many weary miles, you shall have a deep-littered stall, and store of corn and hay so long as I can give them; and may this hand never write another line if it ever does you wilful injury.

Into this paragraph has my pencil of its own accord rambled, though it was taken up to write about something else. And such is the happiness of the writer of essays: he may wander about the world of thought at his will. The style of the essayist has attained what may be esteemed the perfection of freedom, when it permits him, in writing upon any subject whatsoever, to say whatever may occur to him upon any other subject. And truly it is a pleasing thing for one long trammelled by the requirements of a rigorous logic, and fettered by thoughts of symmetry, connection, and neatness in the discussion of his topic, to enter upon a fresh field where all these things go for nothing, and to write for readers many of whom would never notice such characteristics if they were present, nor ever miss them if they were absent. There is all the difference between plodding wearily along the dusty highway, and rambling through green fields, and over country stiles, leisurely, saunteringly, going nowhere in particular. You would not wish to be always desultory and rambling, but it is pleasant to be so now and then. And there is a delightful freedom about the feeling that you are producing an entirely unsymmetrical composition. It is fearful work, if you have a thousand thoughts and shades of thought about any subject, to get them all arranged in what a logician would call their proper

places. It is like having a dissected puzzle of a thousand pieces given you in confusion, and being required to fit all the little pieces of ivory into their box again. By most men this work of orderly and symmetrical composition can be done well only by its being done comparatively slowly. In the case of ordinary folk the mind is a machine, which may indeed, by putting on extra pressure, be worked faster; but the result is the deterioration of the material which it turns off. It is an extraordinary gift of nature and training, when a man is like Follett, who, after getting the facts of an involved and intricate case into his mind only at one or two o'clock in the morning, could appear in court at nine A.M., and there proceed to state the case and all his reasonings upon it, with the very perfection of logical method, every thought in its proper place, and all this at the rate of rapid extempore speaking. The difference between the rate of writing and that of speaking, with most men, makes the difference between producing good material and bad. A great many minds can turn off a fair manufacture at the rate of writing, which, when overdriven to keep pace with speaking, will bring forth very poor stuff indeed. And besides this, most people cannot grasp a large subject in all its extent and its bearings, and get their thoughts upon it marshalled and sorted, unless they have at least two or three days to do so. At first all is confusion and indefiniteness, but gradually things settle into order. Hardly any mind, by any effort, can get them into order quickly. If at all, it is by a tremendous exertion; whereas the mind has a curious power, without any perceptible effort, of arranging in order thoughts upon any subject, if you give it time. Who that has ever written his ideas on some involved point but knows this? You begin by getting up information on the subject about which you are to write. You throw into the mind, as it were, a great heap of crude, unordered material. From this book and that book, from this review and that newspaper, you collect the observations of men who have regarded your subject from quite different points of view, and for quite different purposes; you throw into the mind cartload after cartload of facts and opinions, with a despairing wonder how you will ever be able to get that huge, contra-



dictory, vague mass into any thing like shape and order. And if, the minute you had all your matter accumulated, you were called on to state what you knew or thought upon the subject, you could not do so for your life in any satisfactory manner. You would not know where to begin, or how to go on; it would be all confusion and bewilderment. Well, do not make the slightest effort. What is impossible now will be quite easy by and by. The peas, which cost a sovereign a pint at Christmas, are quite cheap in their proper season. Go about other things for three or four days: and at the end of that time you will be aware that the machinery of your mind, voluntarily and almost unconsciously playing, has sorted and arranged that mass of matter which you threw into it. Where all was confusion and uncertainty, all is now order and clearness; and you see exactly where to begin, and what to say next, and where and how to leave off.

The probability is, that all this has not been done without an effort and a considerable amount of labor. But then, instead of the labor having been all at once, it has been very much subdivided. The subject was simmering in your mind all the while, though you were hardly aware of it. Time after time, you took a little run at it, and saw your way a little further through it. But this multitude of little separate and momentary efforts does not count for much; though in reality, if they were all put together, they would probably be found to have amounted to as much as the prolonged exertion which would at a single heat have attained the end. A large result, attained by innumerable little, detached efforts, seems as if it had been attained without any effort at all.

I love a parasiel case; and I must take such cases from my ordinary experience. Yesterday, passing a little cottage by the wayside (hundreds of miles from London, my inquiring friend), I perceived at the door the carcass of a very large pig extended on a table. Approaching, as is my wont, the tenant of the cottage and owner of the pig, I began to converse with him on the size and fatness of the poor creature which had that morning quitted its sty forever. It had been *shot*, he told me; for such, in these parts, is at present the most approved

way of securing for swine an end as little painful as may be. I admired the humanity of the intention, and hoped that it might be crowned with success. Then my friend, the proprietor of the bacon, began to discourse on the philosophy of the rearing of pigs by laboring men. No doubt, he said, the four pounds, or thereabout, which he would get for his pig, would be a great help to a hard-working man with five or six little children. But after all, he remarked, it was likely enough that during the months of the pig's life, it had bit by bit consumed and cost him as much as he would get for it now. But then, he went on, it cost us *that* in little sums we hardly felt; while the four pounds it will sell for come all in a lump, and seem to give a very perceptible profit. Successive unfelt sixpences had mounted up to that considerable sum; even as five hundred little unfelt mental efforts had mounted up to the large result of sorting and methodizing the mass of crude fact and opinion of which we were thinking a little while ago.

Having worked through this preliminary matter (which will probably be quite enough for some readers, even as the Solan goose which does but whet the appetite of the Highlander, annihilates that of the Sassenach), I now come to the subject which was in my mind when I began to write on the horse's head. I am not in the stable now; for the business which detained me there is long since despatched; and after all, it is more convenient to write at one's study-table. I wish to say something concerning certain evils which press upon humanity; and which are to the mind very much what a mustard-blister is to the body. To the healthy man or woman they probably do not do much serious harm; but they maintain a very constant irritation. They worry and annoy. It is extremely interesting, in reading the published diaries of several great and good men, to find them recording on how many days they were put out of sorts, vexed and irritated, and rendered unfit for their work of writing, by some piece of petty malignity or petty trickery. How well one can sympathize with that good and great and honest and amiable and sterling man, Dr. Chalmers, when we find him recording in his diary, when he was a country parish minister, how he was unable to make satisfactory progress with his sermon one

whole forenoon, because some tricky and overreaching farmer in the neighborhood drove two calves into a field of his glebe, where the great man found them in the morning devouring his fine young clover! There was something very irritating and annoying in the paltry dishonesty. And the sensitive machinery of the good man's mind could not work sweetly when the gritty grains of the small vexation were fretting its polished surface. Let it be remarked in passing, that the peculiar petty dishonesty of driving cattle into a neighboring proprietor's field, is far from being an uncommon one. And let me inform such as have suffered from it of a remedy against it which has never been known to fail. If the trespassing animals be cows, wait till the afternoon: then have them well milked, and send them home. If horses, let them instantly be put in carts, and sent off ten miles to fetch lime. A sudden strength will thenceforward invest your fences: and from having been so open that no efforts on the part of your neighbors could keep their cattle from straying into your fields, you will find them all at once become wholly impervious.

But, to return, I maintain that these continual blisters, of petty trickery and petty malignity, produce a very vexatious effect. You are quite put about at finding out one of your servants in some petty piece of dishonesty or deception. You are decidedly worried if you happen to be sitting in a cottage where your coachman does not know that you are; and if you discern from the window that functionary, who never exercises your horses in your presence save at a walk, galloping them furiously over the hard stones; shaking their legs and endangering their wind. It is annoying to find your hay-makers working desperately hard and fast when you appear in the field, not aware that from amid a little clump of wood you had discerned them a minute before reposing quietly upon the fragrant heaps, and possibly that you had overheard them saying that they need not work very hard, as they were working for a gentleman. You would not have been displeased had you found them honestly resting on the sultry day; but you are annoyed by the small attempt to deceive you. Such pieces of petty trickery put you more out of sorts than you would like to acknowledge: and you are likewise ashamed

to discover that you mind so much as you do, when some good-natured friend comes and informs you how Mr. Snarling has been misrepresenting something you have said or done; and Miss Limejuice has been telling lies to your prejudice. You are a clergyman, perhaps; and you said in your sermon last Sunday that, strong Protestant as you are, you believed that many good people may be found in the Church of Rome. Well, ever since then, Miss Limejuice has not ceased to rush about the parish, exclaiming in every house she entered, "Is not this awful? Here on Sunday morning, the rector said that we ought all to become Roman Catholics! One comfort is, the bishop is to have him up directly. I was always sure that he was a Jesuit in disguise." Or you are a country gentleman: and at an election time you told one of your tenants that such a candidate was your friend, and that you would be happy if he could conscientiously vote for him, but that he was to do just what he thought right. Ever since, Mr. Snarling has been spreading a report that you went, drunk, into your tenant's house, that you thrust your fist in his face, that you took him by the collar and shook him, that you told him that, if he did not vote for your friend, you would turn him out of your farm, and send his wife and children to the workhouse. For in such playful exaggerations do people in small communities not unfrequently indulge. Now you are vexed when you hear of such pieces of petty malignity. They don't do you much harm; for most people whose opinion you value, know how much weight to attach to any statement of Miss Limejuice and Mr. Snarling; and if you try to do your duty day by day where God has put you, and to live an honest, Christian life, it will go hard but you will live down such malicious vilification. But these things worry. They act as blisters, in short, without the medicinal value of blisters. And little contemptible worries do a great deal to detract from the enjoyment of life. To meet great misfortunes we gather up our endurance, and pray for Divine support and guidance; but as for small blisters, the *insect cares* (as James Montgomery called them) of daily life, we are very ready to think that they are too little to trouble the Almighty with them, or even to call up our fortitude to face them. This is not a sermon; but let it be said that

whosoever would learn how rightly to meet the perpetually recurring worries of work-day existence, should read an admirable little treatise by Mrs. Stowe, the authoress of *Uncle Tom's Cabin*, entitled *Earthly Care a Heavenly Discipline*. The price of the work is one penny, but it contains advice which is worth an unaccounted number of pence. Nor, as I think, are there to be found many more corroding and vexatious agencies than those which have been already named. To know that your servants, or your humbler neighbors, or your tradespeople, or your tenantry, or your scholars, are practising upon you a system of petty deception; or to be informed (as you are quite sure to be informed) how such and such a mischievous (or perhaps only thoughtless) acquaintance is putting words into your mouth which you never uttered, or abusing your wife and children, or gloating over your failure to get into Parliament, or the lameness of your horses, or the speech you stuck in at the recent public dinner;—all these things are pettily vexatious to many men. No doubt, over-sensitiveness is abundantly foolish. Some folk appear not merely to be thin-skinned but to have been (morally) deprived of any skin at all; and such folk punish themselves severely enough for their folly. They wince when any one comes near them. The pope may go wrong, but they cannot. It is treasonable, it is inexpiable sin, to hint that, in judgment, in taste, in conduct, it is possible for them to deviate by a hair's breadth from the right line of perfection. Indeed, I believe that no immorality, no criminality, would excite such wrath in some men, as to tread upon a corner of their self-conceit. Yet it is curious how little sympathy these over-sensitive people have for the sensitiveness of other people. You would say they fancied that the skin of which they have been denuded has been applied to thicken to rhinoceros callousness the moral hide of other men. They speak their mind freely to their acquaintances of their acquaintances' belongings. They will tell an acquaintance (they have no friends, so I must repeat the word) that he made a very absurd speech, that she sung very badly, that the situation of his house (which he cannot leave) is abominably dull, that his wife is foolish, and devoid of accomplishments, that her husband is a man of mediocre abilities, that her little boy has red hair and a squint, that

the potatoes he rears are abominably bad, that he is getting unworldly stout, that his riding-horse has no hair on his tail. All these things, and a hundred more, such people say with that mixture of dulness of perception and small malignity of nature which go to make what is vulgarly called a person who "speaks his mind." The right way to meet such folk is by an instant reciprocal action. Just begin to speak your mind to them, and see how they look. Tell them, with calm politeness, that before expressing their opinion so confidently, they should have considered what their opinion was worth. Tell them that civility requires that you should listen to their opinion, but that they may be assured that you will act upon your own. Tell them what you think of their spelling, their punctuation, their features, their house, their carpets, their window-curtains, their general standing as members of the human race. How blue they will look! They are quite taken aback when the same petty malignity and insolence which they have been accustomed for years to carry into their neighbors' territory is suddenly directed against their own. And you will find that not only are they themselves skinlessly sensitive, but that their sensitiveness is not bounded by their own mental and corporeal being; and that it extends to the extreme limits of their horse's legs, to the very top of their chimney-pots, to every member of the profession which was honored by the choice of their great-grandfather.

You have observed, no doubt, that the mention of over-sensitive people acted upon the writer's train of thought as a pair of *points* in the rails act upon a railway train. It shunted me off the main line; and in these remarks on people who talk their mind, I have been, so to speak, running along a siding. To go back to the point where I left the line, I observe, that although it is very foolish to mind much about such small matters as being a little cheated day by day, and a good deal misrepresented now and then by amiable acquaintances, still it is the fact that even upon people of a healthful temperament such things act as moral blisters, as moral pebbles in one's boots. The petty malignity which occasionally annoys you is generally to be found among your acquaintances, and people of the same standing with yourself; while the petty trick-

ery for the most part exists in the case of your inferiors. I think one always feels the better for looking any small evil of life straight in the face. To define a thing, to fix its precise dimensions, almost invariably makes it look a good deal smaller. Indefiniteness much increases apparent size; so let us now examine the size and the operation of these blisters of humanity.

As for petty malignity, my reader, have you not seen a great deal of it? There are not many men who appear to love their neighbors as themselves. No one enjoys a misfortune or disappointment which befalls himself: but there is too much truth in the smart Frenchman's saying, that there is something not entirely disagreeable to us in the misfortunes of even our very best friends. The malignity, indeed, is petty. It is only in small matters. And it is rather in feeling than in action. Even that sour Miss Limejuice, though she would be very glad if your horse fell lame or your carriage upset, would not see you drowning without doing her very best to save you. Ah, poor thing! she is not so bad, after all. This has been to her but a bitter world; and no wonder if she is, on the surface, a little embittered by it. But when you get fairly through the surface of her nature, as real misfortunes and trials do, there is kindness about that withered heart yet. She would laugh at you if you broke down in your speech on the hustings; but she would throw herself in the path of a pair of furious runaway horses, to save a little child from their trampling feet. I do not believe that among ordinary people, even in a gossiping little country town, there is much real and serious malice in this world. I cling to that belief; for if many men were truly as mischievous as you would sometimes think when you hear them talk, one might turn misanthrope and hermit at once. There is hardly a person you know who would do you any material injury; not one who would cut down your roses, or splash your entrance gate with mud: not one who would not gladly do you a kind turn if it lay within his power. Yet there are a good many who would with satisfaction repeat any story which might be a little to your disadvantage; which might tend to prove that you are rather silly, rather conceited, rather ill-informed. You have various friends who would not object to show

up any ridiculous mistake you might happen to make; who would never forget the occasion on which it appeared that you had never heard of the *Spectator* or Sir Roger de Coverly, or that you thought that Mary Queen of Scots was the mother of George III. You have various friends who would preserve the remembrance of the day on which the rector rebuked you for talking in church; or on which your partner and yourself fell flat on the floor of the ballroom at the county town of Oatmealshire, in the midst of a gallop. You have various good-natured friends to whom it would be a positive enjoyment to come and tell you what a very unfavorable opinion Mr. A—— and Mrs. B—— and Miss C—— had been expressing of your talents, character, and general conduct. How true was the remark of Sir Fretful Plagiary, that it is quite unnecessary for any man to take pains to learn any thing bad that has been said about him, inasmuch as it is quite sure to be told him by some good-natured friend or other! You have various acquaintances who will be very much gratified when a rainy day spoils the picnic to which you have invited a large party; and who will be perfectly enraptured, if you have hired a steamboat for the occasion, and if the day proves so stormy that every soul on board is deadly sick. And indeed it is satisfactory to think that in our uncertain climate, where so many festal days are marred as to their enjoyment by drenching showers, there is compensation for the sufferings of the people who are ducked, in the enjoyment which that fact affords to very many of their friends. By taking a larger view of things, you discover that there is good in every thing. You were senior wrangler: you just miss being made a bishop at forty-two. No doubt that was a great disappointment to yourself; but think what a joy it was to some scores of fellows whom you beat at college, and who hate you accordingly. Some months ago a proprietor in this county was raised to the peerage. His tenantry were entertained at a public dinner in honor of the event. The dinner was held in a large canvas pavilion. The day came. It was fearfully stormy, and torrents of rain fell. A perfect shower-bath was the portion of many of the guests; and finally the canvas walls and roof broke loose, smashed the crockery, and whelmed the

feast in fearful ruin. During the nine days which followed, the first remark made by every one you met was, "What a sad pity about the storm spoiling the dinner at Stuckup Place!" And the countenance of every one who thus expressed his sorrow was radiant with joy! And quite natural, too. They would have felt real regret had the new peer been drowned or shot: but the petty malignity which dwells in the human bosom made them rejoice at the small but irritating misfortune which had befallen. Shall I confess it, *mea culpa, mea maxima culpa*, I rejoiced in common with all my fellow-creatures! I was ashamed of the feeling. I wished to ignore it and extinguish it; but there was no doubt that it was there. And if Lord Newman was a person of enlarged and philosophic mind, he would have rejoiced that a small evil, which merely mortified himself and gave bad colds to his tenantry, afforded sensible pleasure to several thousands of his fellow-men. Yes, my reader: it is well that a certain measure of small malice is ingrained in our fallen nature. For thus some pleasure comes out of almost all pain; some good from almost all evil. Your little troubles vex you, but they gratify your friends. Your horse comes down and smashes his knees. No doubt, to you and your groom it is unmingled bitterness. But every man within several miles, whose horse's knees have already been smashed, hails the event as a real blessing to himself. You signally fail of getting into Parliament, though you stood for a county in which you fancied that your own influence and that of your connections was all-powerful. No doubt, you are sadly mortified. No doubt you do not look like yourself for several weeks. But what chuckles of joy pervade the hearts and faces of five hundred fellows who have no chance of getting into the House themselves, and who dislike you for your huge fortune, your grand house, your countless thoroughbreds, your insufferable dignity, and your general forgetfulness of the place where you grew, which by those around you is perfectly well remembered. And while it is true that even people of a tolerably benevolent nature do not really feel any great regret at any mortification or disappointment which befalls a wealthy and pretentious neighbor, it is also certain that a greater number of folk do actually gloat

over any event which humbles the wealthy and pretentious man. You find them, with a malignant look, putting the case on a benevolent footing. "This taking-down will do him a great deal of good: he will be much the wiser and better for it." It is not uncharitable to believe, that in many cases in which such sentiments are expressed, the true feeling of the speaker is rather one of satisfaction at the pain which the disappointment certainly gives, than of satisfaction at the beneficial discipline which may possibly result from it. The thing *said* amounts to this: "I am glad that Mr. Richman has got a taking-down, because the taking-down, though painful at the time, is in fact a blessing." The thing *felt* amounts to this: "I am glad that Mr. Richman has got a taking-down, because I know it will make him very miserable." Every one who reads this page knows that this is so. Ah, my malicious acquaintances, if you know that the sentiment you entertain is one that would provoke universal execration if it were expressed, does not *that* show that you ought not to entertain it?

I have said that I do not believe there is much real malignity among ordinary men and women. It is only at the petty misfortunes of men's friends that they ever feel this unamiable satisfaction. When great sorrow befalls a friend, all this unworthy feeling goes; and the heart is filled with true sympathy and kindness. A man must be very bad indeed if this is not the case. It strikes me as something fiendlike rather than human, Byron's savage exultation over the melancholy end of the great and amiable Sir Samuel Romilly. Romilly had given him offence by acting as legal adviser to some whom Byron regarded as his enemies. But it was babyish to cherish enmity for such a cause as that; and it was diabolical to rejoice at the sad close of that life of usefulness and honor. It was not good in James Watt, writing in old age an account of one of his many great inventions, to name very bitterly a man who had pirated it; and to add, with a vengeful chuckle, that the poor man was "afterwards hanged." No private ground of offence should make you rejoice that your fellow-creature was hanged. You may justifiably rejoice in such a case only when the man hanged was a public offender, and an enemy of the race. Throw



up your hat, if you please, when Nana Sahib stretches the hemp at last! *That* is all right. He never did harm to you individually: but you think of Cawnpore; and it is quite fit that there should be a bitter, burning satisfaction felt at the condign punishment of one whose punishment eternal justice demands. What is the use of the gallows, if not for that incarnate demon? I think of the poor sailors who were present at the trial of a bloodthirsty pirate of the Cuban coast. "I suppose," said the one doubtingly to the other, "the devil will get that fellow." "I should hope so," was the unhesitating reply; "or what would be the use of having any devil!"

But some real mischievous malice there is, even among people who bear a creditable character. I have occasionally heard old ladies (very few) tearing up the character of a friend with looks as deadly as though their weapon had been a stiletto, instead of that less immediately fatal instrument of offence, concerning which a very high authority informs us, that in some cases it is "set on fire of hell." Ah, you poor girl, who danced three times (they call it nine) with Mr. A. at the assembly last night, happily you do not know the venomous way in which certain spiteful tabbies are pitching into you this morning! And you, my friend, who drove along Belvidere-place (the fashionable quarter of the county town) yesterday, in your new drag with the new harness and the pair of thoroughbreds, and fancied you were charming every eye and heart, if you could but hear how your equipage and yourself were scarified last evening, as several of your elderly female acquaintances sipped together the cup that cheers! How they brought up the time that you were flogged at the public school, and the term you were rusticated at Oxford! Even the occasion was not forgotten on which your grandfather was believed, forty years since, to have rather done Mr. Softly in the matter of a glandered steed. And the peculiar theological tenets of your grandmother were set forth in a fashion that would have astounded that good old lady. And you who, are so happily occupied in building in that beautiful woodland spot that graceful Elizabethan house, little you know how bitterly some folk, dwelling in hideous seedy mansions, sneer at you and your gimcracks, and your Gothic style in which you "go back to barbarism."

You, too, my friend, lately made a queen's counsel, or a judge, or a bishop, if the shafts of envy could kill you, you would not live long. It is curious, by the way, how detraction follows a man when he first attains to any eminent place in State or Church; how keenly his qualifications are canvassed; how loudly his unfitness for his situation is proclaimed! and how, when a few months have passed, everybody gets quite reconciled to the appointment, and accepts it as one of the conditions of human affairs. Sometimes, indeed, the right man, by emphasis, is put in the right place; so unquestionably the right man that even envy is silenced; as when Lord St. Leonards was made lord chancellor, or when Mr. Melvill was appointed to preach before the House of Commons. But even when men who had been plucked at the university were made bishops, or princes who had never seen a gun fired in anger field-m Marshals, or briefless barristers judges, although a general outcry arose at the time, it very speedily died away. When you find a man actually in a place, you do not weigh his claims to be there so keenly as if you were about to appoint him to it. If a resolute premier made Tom Spring a chief-justice, I doubt not that in six weeks the country would be quite accustomed to the fact, and accept it as part of the order of nature. How else is it that the nation is content to have blind and deaf generals placed in high command, and infirm old admirals going to sea who ought to be going to bed?

It is a sad fact that there are men and women who will, without much investigation as to its truth, repeat a story to the prejudice of some man or woman whom they know. They are much more critical in weighing the evidence in support of a tale to a friend's credit and advantage. I do not think they would absolutely invent such a calumnious narrative; but they will repeat, if it has been told them, what, if they do not know it to be false, they also do not know to be true, and strongly suspect to be false.

My friend Mr. C., rector of a parish in Hampshire has a living of about five hundred a year. Some months ago he bought a horse, for which he paid fifty pounds. Soon after he did so, I met a certain malicious old woman who lived in his neighborhood. "So," said she, with a look far from benev-



olent, "Mr. C. has gone and paid a hundred pounds for a horse! Monstrous extravagance for a man with his means and with a family." "No, Miss Verjuice," I replied: "Mr. C. did not pay nearly the sum you mention for his horse: he paid no more for it than a man of his means could afford." Miss Verjuice was not in the least discomfited by the failure of her first shaft of petty malignity. She had another in her quiver, which she instantly discharged. "Well," said she, with a face of deadly ferocity, "if Mr. C. did not pay a hundred pounds for his horse, *at all events he said he did!*" This was the drop too much. I told Miss Verjuice, with considerable asperity, that my friend was incapable of petty vamping and petty falsehood; and in my book, from that day forward, there has stood a black cross against the individual's name.

Egypt, it seems, is the country where malevolence, in the sense of pure envy of people who are better off, is most prevalent and is most feared. People there believe that the envious eye does harm to those on whom it rests. Thus, they are afraid to possess fine houses, furniture, and horses, lest they should excite envy and bring misfortune. And when they allow their children to go out for a walk, they send them dirty and ill-dressed, for fear the covetous eye should injure them:—

"At the bottom of this superstition is an enormous prevalence of envy among the lower Egyptians. You see it in all their fictions. Half of the stories told in the coffee-shops by the professional story-tellers, of which the *Arabian Nights* are a specimen, turn on malevolence. Malevolence, not attributed, as it would be in European fiction, to some insult or injury inflicted by the person who is its object, but to mere envy: envy of wealth, or of the other means of enjoyment, honorably acquired and liberally used."\*

A similar envy, no doubt, occasionally exists in this country; but people here are too enlightened to fancy that it can do them any harm. Indeed, so far from standing in fear of exciting envy by their display of possessions and advantages, some people feel much gratified at the thought of the amount of envy and malignity which they are likely to excite. "Wont old Hunks turn green with fury," said a friend to me, "the first time I

drive up to his door with those horses?" They were indeed beautiful animals; but their proprietor appeared to prize them less for the pleasure they afforded himself, than for the mortification they would inflict on certain of his neighbors. "Wont Mrs. Grundy burst with spite when she sees this drawing-room?" was the remark of my lately married Cousin Henrietta, when she showed me that very pretty apartment for the first time. "Wont Snooks be ferocious," said Mr. Dryasdust the book-collector, "when he hears that I have got this almost unique edition?" Ah, my fellow-creatures, we are indeed a fallen race!

Hazlitt maintains that the petty malignity of mortals finds its most striking field in the matter of will-making. He says:—

"The last act of our lives seldom belies the former tenor of them for stupidity, caprice, and unmeaning spite. All that we seem to think of is to manage matters so (in settling accounts with those who are so unmannerly as to survive us) as to do as little good and plague and disappoint as many people as possible.\*

Every one knows that this brilliant essayist was accustomed to deal in sweeping assertions; and it is to be hoped that such cases as that which he here describes form the exception to the rule. But it must be admitted that most of us have heard of wills at whose reading we might almost imagine their malicious maker fancied he might be invisibly present to chuckle over the disappointment and mortification which he was dealing even from his grave. Cases are also recorded in which rich old bachelors have played upon the hopes of half a dozen poor relations, by dropping hints to each separately that *he* was to be the fortunate heir of all their wealth; and then have left their fortune to an hospital, or have departed from this world intestate, leaving an inheritance mainly of quarrels, heart-burnings, and chancery suits. How often the cringing, tale-bearing toady, who has borne the ill-humors of a rich sour old maid for thirty years, in the hope of a legacy, is cut off with nineteen guineas for a mourning ring! You would say, perhaps, "Serve her right." I differ from you. If any one likes to be toadied, he ought in honesty to pay for it. He

\* *Table-Talk*, vol. i. p. 171. "Essay on Will-making.

\* Archbishop Whately's *Bacon*, p. 97.

knows quite well he would never have got it save for the hope of payment ; and you have no more right to swindle some poor creature out of years of cringing and flattering than out of pounds of money. A very odd case of petty malice in will-making was that of a man who, not having a penny in this world, left a will in which he bequeathed to his friends and acquaintance large estates in various parts of England, money in the funds, rings, jewels, and plate. His inducement was the prospect of the delight of his friends at first learning about the rich possessions which were to be theirs, and then the bitter disappointment at finding how they had been hoaxed. Such deceptions and hoaxes are very cruel. Who does not feel for poor Moore and his wife, receiving a lawyer's letter just at a season of special embarrassment, to say that some deceased admirer of the poet had left him five hundred pounds, and, after being buoyed up with hope for a few days, finding that some malicious rascal had been playing upon them? No ; poor people know that want of money is too serious a matter to be joked about.

Let me conclude what I have to say about petty malignity by observing that I am very far from maintaining that all unfavorable remark about people you know proceeds from this unamiable motive. Some folk appear to fancy that if you speak of any man in any terms but those of superlative praise, this must be because you bear him some ill-will : they cannot understand that you may merely wish to speak truth and do justice. Every person who writes a stupid book and finds it unfavorably noticed in any review, instantly concludes that the reviewer must be actuated by some petty spite. The author entirely overlooks the alternative that his book may be said to be bad because it *is* bad, and because it is the reviewer's duty to say so if he thinks so. I remember to have heard the friend of a lady who had published a bitterly bad and unbecoming work speaking of the notice of it which had appeared in a periodical of the very highest class. The notice was of course unfavorable. "Oh," said the writer's friend, "I know why the review was so disgraceful: the man who wrote it was lately jilted, and he hates all women in consequence!" It happened that I had very good reason to know who wrote the depreciatory article, and I could declare that the

motive assigned to the reviewer had not the least existence in fact.

Unfavorable remark has frequently no earthly connection with malignity great or petty. It is quite fit that, as in people's presence politeness requires that you should not say what you think of them, you should have an opportunity of doing so in their absence ; and every one feels when the limits of fair criticism are passed. What *could* you do if, after listening with every appearance of interest to some old lady's wearisome vamping, you felt bound to pretend, after you had made your escape, that you thought her conversation was extremely interesting? What a relief it is to tell what you have suffered to some sympathetic friend! I have heard injudicious people say, as something much to a man's credit, that he never speaks of any mortal except in his praise. I do not think the fact is to the man's advantage. It appears to prove either that the man is so silly that he thinks every thing he hears and sees to be good, or that he is so crafty and reserved that he will not commit himself by saying what he thinks. Outspoken good-nature will sometimes get into scrapes from which self-contained craft will keep free ; but the man who, to use Miss Edgeworth's phrase, "thinks it best in general not to speak of things," will be liked by nobody.

By petty trickery I mean that small deception which annoys and worries you, without doing you material harm. Thus it passes petty trickery when a bank publishes a swindling report, on the strength of whose false representations of prosperity you invest your hard-won savings in its stock and lose them all. It passes petty trickery when your clerk absconds with some hundreds of pounds. It indicates petty trickery when you find your servants writing their letters on your crested note-paper, and enclosing them in your crested envelopes. It indicates that at some time or other a successful raid has been made upon your paper-drawer. It indicates petty trickery when you find your horses' ribs beginning to be conspicuous, though they are only half worked and are allowed three feeds of corn a day. Observe your coachman then, my friend. Some of your corn is going where it should not. It indicates petty trickery when your horses' coats are full of dust, though whenever you happen to be present they are groomed with

incredible vigor: they are not so in your absence. It indicates petty trickery when, suddenly turning a corner, you find your coachman galloping the horses along the turnpike-road at the rate of twenty-three miles an hour. It indicates petty trickery when you find your neighbors' cows among your clover. It indicates petty trickery when you find amid a cottager's stock of firewood several palisades taken from your park-fence. It indicates petty trickery when you discern in the morning the traces of very large hobnailed shoes crossing your wife's flower-garden towards the tree where the magnum-bonums are nearly ripe. But why extend the catalogue? Every man can add to it a hundred instances. Says Bacon, "The small wares and petty points of cunning are infinite, and it were a good deed to make a list of them." Who could make such a list? What numbers of people are practising petty trickery at every hour of the day! Yet, forasmuch as these tricks are small and pretty frequently seen through, they form only a blister: they are irritating but not dangerous: and it is very irritating to know that you have been cheated, to however small an extent. How inestimable is a thoroughly honest servant! Apart from any thing like principle, if servants did but know it, it is well worth their while to be strictly truthful and reliable: they are then valued so much. It is highly expedient, besides being right. And not only is it extremely vexatious to find out any domestic in dishonesty of any kind; not only does it act as a blister at the moment, but it fosters in one's self a suspicious habit of mind which has in it something degrading. It is painful to be obliged to feel that you must keep a strict watch upon your stable or your granary. You have somewhat of the feeling of a spy; yet you cannot, if you have ordinary powers of observation, shut your eyes to what passes round you.

There is, indeed, some petty trickery which is highly venial, not to say pleasing. When a little child, on being offered a third plate of plum-pudding, says, with a wistful and half-ashamed look, "No, thank you," well you know that the statement is not entirely candid, and that the poor little thing would be sadly disappointed if you took him at his word. Think of your own childish days; think what plum-pudding was then, and in-

stantly send the little man a third plate, larger than the previous two. So if your gardener gets wet to the skin in mowing a little bit of turf in a drenching summer-shower, which turns it, parched for the last fortnight, to emerald green, tell him he must be very wet, and give him a glass of whiskey; never mind, though he, in his politeness, declares that he does not want the whiskey, and is perfectly dry and comfortable. You will find him very readily dispose of the proffered refreshment. So if you go into a poor, but spotlessly clean little cottage, where a lonely widow of eighty sits by her spinning-wheel. Her husband and her children are dead, and there she is, all alone, waiting till she goes to rejoin them. A poor, dog's-eared, ill-printed Bible lies on the rickety deal-table near. You take a large parcel which you have brought, wrapped in brown paper; and as you talk with the good old Christian, you gradually untie it. A well-sized volume appears; it is the volume which is worth all the rest that ever were written; and you tell your aged friend that you have brought her a Bible, with great, clear type, which will be easily read by her failing eyes, and you ask her to accept it. You see the flush of joy and gratitude on her face, and you do not mind though she says something which is not strictly true—that it was too kind of you, that she did not need it, that she could manage with the old one yet. Nor would you severely blame the brave fellow who jumped off a bridge forty feet high, and pulled out your brother when he was just sinking in a flooded river, if, when you thanked him with a full heart for the risk he had run, he replied, in a careless, good-humored way, that he had really done nothing worth the speaking of. The brave man is pained by your thanks: but he thought of his wife and children when he leaped from the parapet, and he knew well that he was hazarding his life. And he is perfectly aware that the statement which he makes is not consistent with fact—but surely, you would never call him a trickster!

Mr. J. S. Mill, unquestionably a very courageous as well as a very able writer, has declared in a recent publication, that, in Great Britain, the higher classes, for the most part, speak the truth, while the lower classes, almost without exception, have frequent re-

course to falsehood. I think Mr. Mill must have been unfortunate in his experience of the poor. I have seen much of them, and I have found among them much honesty and truthfulness, along with great kindness of heart. They have little to give away in the form of money, but will cheerfully give their time and strength in the service of a sick neighbor. I have known a shepherd who had come in from the hills in the twilight of a cold December afternoon, weary and worn out, find that the little child of a poor widow in the next cottage had suddenly been taken ill, and without sitting down, take his stick, and walk away through the dark to the town nine miles off, to fetch the doctor. And when I told the fine fellow how much I respected his manly kindness, I found he was quite unaware that he had done any thing remarkable; "it was just what any neighbor would do for another!" And I could mention scores of similar cases. And as for truthfulness, I have known men and women among the peasantry, both of England and Scotland, whom I would have trusted with untold gold—or even with what the Highland laird thought a more searching test of rectitude—with unmeasured whiskey. Still, I must sorrowfully admit that I have found in many people a strong tendency, when they had done any thing wrong, to justify themselves by falsehood. It is not impossible that over-severe masters and mistresses, by undue scoldings administered for faults of no great moment, foster this unhappy tendency. It was not, however, of one class more than another, that the quaint old minister of a parish in Lanarkshire was speaking, when one Sunday morning he read as his text the verse in the Psalms, "I said in my haste, All men are liars," and began his sermon by thoughtfully saying:—

"Ay, David, ye said it in your haste, did you? If ye had lived in this parish, ye might have said it at your leisure!"

There is hardly a sadder manifestation of the spirit of petty trickery than that which has been pressed on the attention of the public by recent accounts of the adulteration of food. It is, indeed, sad enough,—

"When chalk, and alum, and plaster, are sold to the poor for bread,  
And the spirit of murder works in the very means of life:"

and when the luxuries of the rich are in

many cases quite as much tampered with; while, when medical appliances become needful to correct the evil effects of red lead, plaster of Paris, cantharides, and oil of vitriol, the physician is quite uncertain as to the practical power of the medicine he prescribes, inasmuch as drugs are as much adulterated as food. Still, there seems reason to hope that, more frequently than the *Lancet* Commission would lead one to think, you really get in the shops the thing you ask and pay for. I firmly believe that, in this remote district of the world, such petty dishonesty is unknown: and I cannot refrain from saying that, notwithstanding all I have read of late years in tracts, sermons, poems, and leading articles, of the frequency of fraud in the dealings of tradesmen in towns, I never in my own experience have seen traces of it.

Most human beings, however, will tell you that day by day they witness a good deal of indirectness, insincerity, and want of straightforwardness—in fact of petty trickery. There are many people who appear incapable of doing any thing without going round about the bush, as Caledonians say. There are many who always try to disguise the real motive for what they do. They will tell you of any thing but the consideration that actually weighs with them, though that is in most cases perfectly well known to the person they are talking to. Some men will tell you that they travel second-class by railway because it is warmer, cooler, airier, pleasanter than the first-class. They suppress all mention of the consideration that obviously weighs with them; viz., that it is cheaper. Mr. Squeers gave the boys at Dotheboys Hall treacle and sulphur one morning in the week. The reason he assigned was that it was good for their health: but his more outspoken wife stated the true reason, which was that, by sickening the children, it made breakfast unnecessary upon that day. Some Dissenters pretend that they want to abolish Church-rates, with a view to the good of the Church: of course everybody knows that their real wish is to do the Church harm. Very soft indeed would the members of the Church be, if they believed that its avowed enemies are extremely anxious for its welfare. But the forms of petty trickery are endless. Bacon mentions in one of his *Essays* that he knew a statesman who, when he came to Queen Elizabeth with bills

to sign, always engaged her in conversation about something else, to distract her attention from the papers she was signing. And when some impudent acquaintance asks you, reader, to put your name to another kind of bill, for his advantage, does he not always think to delude you into doing so by saying that your signing is a mere form, intended only for the fuller satisfaction of the bank that is to lend him the money? He does not tell you that he is just asking you to give him the sum named on that stamped paper. Don't believe a word he says, and show him the door. Signing a promise to pay money is never a form; if it be a form, why does he ask you to do it? Bacon mentions another man, who, "when he came to have speech, would pass over that he intended most, and go forth, and come back again, and speak of it as a thing he had almost forgot." I have known such men too. We have all known men who would come and talk about many indifferent things, and then at the end bring in as if accidentally the thing they came for. Always pull such men sharply up. Let them understand that you see through them. When they sit down, and begin to talk of the weather, the affairs of the district, the new railway, and so forth, say at once, "Now, Mr. Pawky, I know you did not come to talk to me about these things. What is it that you want to speak of? I am busy, and have no time to waste." It is wonderful how this will beat down Mr. Pawky's guard. He is prepared for sly finesse, but he is quite taken aback by downright honesty. If you try to do him he will easily do you: but perfect candor foils the crafty man, as the sturdy Highlander's broadsword at once cut down the French master of fence, vaporing away with his rapier. You cannot beat a rogue with his own weapons. Try him with truth: like David, he "has not proved" that armor; he is quite unaccustomed to it, and he goes down.

Men in towns know that time is valuable to them; and by long experience they are assured that there is no use in trying to overreach a neighbor in a bargain, because he is so sharp that they will not succeed. But in agricultural districts some persons may be found who appear to regard it as a fond delusion that "honesty is the best policy;" and who never deal with a stranger without feeling their way, and trying how far it may

be possible to cheat him. I am glad to infer, from the universal contempt in which such persons are held, that they form base, though by no means infrequent, exceptions to the general rule. The course which such individuals follow in buying and selling is quite marked and invariable. If they wish to buy a cow or rent a field, they begin by declaring with frequency and vehemence that they don't want the thing,—that in fact they would rather not have it,—that it would be inconvenient for them to become possessors of it. They then go on to say that still, if they can get it at a fair price, they may be induced to think of it. They next declare that the cow is the very worst that ever was seen, and that very few men would have such a creature in their possession. The seller of the cow, if he knows his customer, meanwhile listens with entire indifference to Mr. Pawky's asseverations, and after a while proceeds to name his price. Fifteen pounds for the cow. "Oh," says Mr. Pawky, getting up hastily and putting on his hat, "I see you don't want to sell it. I was just going to have offered you five pounds. I see I need not spend longer time here." Mr. Pawky, however, does not leave the room: sometimes, indeed, if dealing with a green hand, he may actually depart for half an hour; but then he returns and resumes the negotiation. A friend of his has told him that possibly the cow was better than it looked. It looked very bad indeed, but it might be a fair cow after all. So the proceedings go on: and after an hour's haggling, and several scores of falsehoods told by Mr. Pawky, he becomes the purchaser of the animal for the sum originally named. Even now he is not exhausted. He assures the former owner of the cow that it is the custom of the district always to give back half a crown in the pound, and refuses to hand over more than £13 2s. 6d. The cow is by this time on its way to Mr. Pawky's house. If dealing with a soft man, this final trick possibly succeeds. If with an experienced person, it wholly fails. And Mr. Pawky, after wasting two hours, telling sixty-five lies, and stamping himself as a cheat in the estimation of the person with whom he was dealing, ends by taking nothing by all his petty trickery. O poor Pawky, why not be honest and straightforward at once? You would get just as much money, in five



cases out of six; and you would save your time and breath, and miss running up that fearful score in the book of the recording angel!

After any transaction with Mr. Pawky, how delightful it is to meet with a downright honest man! I know several men—farmers, laborers, country gentlemen—of that noble class, whose "word is as good as their bond!" I know men whom you could not even imagine as taking a petty advantage of any mortal. They are probably far from being pieces of perfection. They are crotchety in temper; they are rough in address; their clothes were never made by Stultz; possibly they do not shave every morning. But as I look at the open, manly face, and feel the strong gripe of the vigorous hand, and rejoice to think that the world goes well with them, and that they find it pay to speak the truth,—I feel for the minute as if the somewhat overstrained sentiment had truth in it, that

"An honest man's the noblest work of God!"

I am firmly convinced that no man, in the long run, gains by petty trickery. Honesty is the best policy. You remember how the roguish Ephraim Jenkinson, in the *Vicar of Wakefield*, mentioned that he contrived to cheat honest Farmer Flamborough about once a year; but still the honest farmer grew rich, and the rogue grew poor, and so Jenkinson began to bethink him that he was in the wrong track after all. A man who with many oaths declares a broken-winded nag is sound as a bell, and thus gets fifty pounds for an animal he bought for ten, and then declares with many more oaths that he never warranted the horse, may indeed gain forty pounds in money by that transaction, but he loses much more than he gains. The man whom he cheated, and the friends of the man whom he cheated, will never trust him again; and he soon acquires such a character that every one who is compelled to have any dealings with him stands on his guard and does not believe a syllable he says. I do not mention here the solemn consideration of how the gain and loss may be adjusted in the view of another world; nor do more than allude to a certain solemn question as to the profit which would follow the gain of much more than forty pounds, by means which would damage something possessed by every man. All trickery is

folly. Every rogue is a fool. The publisher who advertises a book he has brought out, and appends a flattering criticism of it as from the *Times* or *Fraser's Magazine* which never appeared in either periodical, does not gain on the whole by such petty deception; neither does the publisher who appends highly recommendatory notices, marked with inverted commas as quotations, though with the name of no periodical attached, the fact being that he composed these notices himself. You will say that Mr. Barnum is an instance of a man who made a large fortune by the greater and lesser arts of trickery; but would you, my honest and honorable friend, have taken that fortune on the same terms? I hope not. And no blessing seems to have rested on Barnum's gains. Where are they now? The trickster has been tricked—the doer done. There is a hollowness about all prosperity which is the result of unfair and underhand means. Even if a man who has grown rich through trickery seems to be going on quite comfortably, depend upon it he cannot feel happy. The sword of Damocles is hanging over his head. Let no man be called happy before he dies.

I believe, indeed, that in some cases the conscience grows quite callous, and the notorious cheat fancies himself a highly moral and religious man; and although it is always extremely irritating to be cheated, it is more irritating than usual to think that the man who has cheated you is not even made uneasy by the checks of his own conscience. I would gladly think that in most cases,—

"Doubtless the pleasure is as great  
Of being cheated as to cheat."

I would gladly think that the man who has done another feels it as blistering to remember the fact as the man who has been done does. It would gratify me much if I were able to conclude that every man who is a knave knows that he is one. I doubt it. Probably he merely thinks himself a sharp, clever fellow. Only this morning I was cheated out of four and sixpence by a man of very decent appearance. He obtained that sum by making three statements, which I found on inquiring, after he had gone, were false. The gain, you see, was small. He obtained just eighteen-pence a lie. Yet he went off, looking extremely



honest. And no doubt he will be at his parish church next Sunday, making the responses in tones that drown the clerk's. And probably when he reflects upon the transaction, he merely thinks that he was sharp and I was soft. The analogy between these small tricks and a blister holds in several respects. Each is irritating, and the irritation caused by each gradually departs. You are very indignant at first learning that you have been taken in; you are rather sore, even the day after—but the day after *that* you are less sore at having been done than sorry for the rogue who was fool enough to do you.

I am writing only of that petty trickery which acts as a blister of humanity; as I need say nothing of those numerous forms of petty trickery which do not irritate, but merely amuse. Such are those silly arts by which some people try to represent themselves to their fellow-creatures as richer, wiser, better informed, more highly connected, more influential and more successful than the fact. I felt no irritation at the schoolboy who sat opposite me the other day in a railway carriage, and pretended that he was reading a Greek play. I allowed him to fancy his trick had succeeded, and conversed with him of the characteristics of Æschylus. He did not know much about them. A friend of mine, a clergyman, went to the house of a weaver in his parish. As he was about to knock at the door, he heard a solemn voice within; and he listened in silence as the weaver asked

God's blessing upon his food. Then he lifted the latch and entered: and thereupon the weaver, resolved that the clergyman should know he said grace before meat, *began and repeated his grace over again*. My friend was not angry; but he was very, very sorry. And never, till the man had been years in his grave, did he mention the fact. As for the fashion in which some people fire off, in conversation with a new acquaintance, every titled name they know, it is to be recorded that the trick is invariably as unsuccessful as it is contemptible. And is not a state dinner, given by poor people, in resolute imitation of people with five times their income, with its sham champagne, its disguised greengrocers, and its general turning the house topsy-turvy,—is not such a dinner one great trick, and a very transparent one?

The writer is extremely tired. Is it not curious that to write for four or five hours a day for four or five successive days, wearies a man to a degree that ten or twelve daily hours of ploughing does not weary the man whose work is physical? Mental work is much the greater stretch: and it is strain, not time, that kills. A horse that walks at two miles and a half an hour, ploughing, will work twelve hours out of the twenty-four. A horse that runs in the mail at twelve miles an hour, works an hour and a half and rests twenty-two and a half; and with all that rest soon breaks down. The bearing of all this is, that it is time to stop; and so my long, black goosequill, lie down!

A. K. H. B.

**EXPLOITS OF GARIBALDI.**—The amazing exploits of the great captain of modern Italy are thus summed up: Four months have passed away since Garibaldi landed with his eighteen hundred men, northern Italians and Hungarians, at Marsala. During that period he has marched more than four hundred and fifty miles, fought many battles, great and small, stormed three fortified towns, taken possession of three of the largest and finest cities of the Italian people,

organized civil government wherever he has marched, created and disciplined armies, appointed generals, carried on an extensive correspondence, defeated the schemes and intrigues of the enemies of Italian independence, whether those enemies were Neapolitan royalists, Jesuit traitors, or Mazzinian visionaries. Verily he has had enough to do. It is well that he is a man of the most strictly temperate habits, or he could not have gone through all this toil, beneath the burning sun of Southern Italy.

From The N. Y. Evening Post.  
THE POETRY OF THE FOOT.

*Surgical and Practical Observations on the Diseases of the Human Foot*, with Instructions for their Treatment. To which is added Advice on the Management of the Hand. By J. Zacharie. New York: Charles B. Norton. 1860.

ONE would scarcely look into a book bearing the above prosaic title for any thing like poetry or entertaining reading matter. Yet Mr. Zacharie manages to combine both with his "surgical and practical observations." Of course, it is to the latter that the little volume, with its handsomely colored illustrations, is chiefly devoted. Mr. Zacharie gives a lucid account of the diseases to which the foot is subject, and maintains that the chiropodist is as necessary and important a member of the great body of men who have devoted their lives to the healing art, as the dentist. Fortunately, diseases of the foot are not as common as diseases of the teeth, and thus there will be fewer interested in the book than would otherwise be the case; but all those who have suffered from their feet will be anxious to see what an experienced and successful chiropodist like Dr. Zacharie has to say on the matter. For others we extract the following chapter on

#### THE POETRY OF THE FEET.

We do not like a foot too small for the height any more than we like one too large. A small foot indicateth coquetry. Cleopatra's foot must have been small and finely arched, or she would never have done as described by Enobarbus:—

"I saw her once  
Hop forty paces through the public street."

No woman ever did or would have done the like, but with the consciousness of great perfection in the feet.

Antony sends for pearls, saying:—

"The firm Roman to great Egypt sends  
This treasure of an oyster; at whose feet,  
To mend the pretty present, I will piece  
Her opulent throne with kingdoms."

No man alludes to a woman's foot in any way, if he loves her, unless it be beautiful.

Hermione, on the contrary had a firm, well-proportioned foot, betokening majesty. When she enacts the statue scene, we are sure she had a well-sized foot:—

"Oh! royal piece,  
There's magic in thy majesty."  
is the exclamation of Leontes.

A woman will never enact the part of a statue, if conscious of an ill foot, unless her intellectuality may have perverted her instincts, as in the case of Madame de Stael, who at one time personated in this way; and Talleyrand, if we mistake not, offended her, past retrieve, by saying he knew who it was by the *pied de Stael* (pedestal), a terrible pun where the feet and ankles are ill-shaped.

Desdemona, Ophelia and Cordelia must have had long, slender feet, which agree rather with sentiment than with magnetism or genius. Miranda, on the contrary, had elegantly proportioned feet, worthy the chaste Diana herself. Then, too, Kate, dainty Kate, the sharp shrew, the pretty vixen, had a little arched foot, graceful and elastic as the spring of a tiger. When Petruchio says:—

"Why does the world report that Kate doth limp,"

it was a delicate commendation of her foot; still more when he says:—

"Did ever Dian so become a grove,  
As Kate this chamber with her princely gait?"

Tennyson hath a delicate eye for a foot when he represents Ida in this wise:—

"She stood  
Among her maidens, higher by the head,  
Her back against a pillar, her foot on one  
Of those tame leopards. Kitten-like he rolled  
And pawed about her sandal."

And again, describing the retinue of the princess climbing the rock in pursuit of minerals, he says:—

"Many a light foot shone like a jewel set  
In the dark craig."

Women with large feet never like to climb hills.

The sentiment of beauty is less in the size than a certain liteness and elasticity. "Light as a fawn," "Fleet as the greyhound," "With a step like a stag," are all pretty phrases, indicating the character of the foot, which is the index to the whole woman.

Dress has a great effect upon the foot, and we fear very long dresses demoralize it. The long robe certainly destroys its elasticity. We like to see a woman's feet

"Beneath her petticoat,  
Like little mice steal in and out,  
As if they feared the light."

That was very pretty in a lover, who saw

his mistress bathing her feet in a brook, and wrote her :—

“Do not fear to put thy feet,  
Naked in the water, sweet :  
Fear not lizard, newt, or toad,  
Will dare to come where thou hast trod”

The French foot is meagre, narrow, and bony ; the Spanish foot is small and elegantly curved, thanks to its Moorish blood, corresponding with the Castilian pride—“high in the instep.” The Arab foot is proverbial for its high arch ; “a stream can run under the hollow of his foot,” is a description of its form. The foot of the Scotch is large and thick—that of the Irish flat and square—the English short and fleshy. The American foot is apt to be disproportionately small.

A foot should be arched, fairly rounded, and its length proportioned to the height of the individual. It should have a delicate spring to it, as if it did not quite belong to the earth, and touching it daintily, if not disdainfully. The ankle should express tenderness, should be round and firm, and not too small.

“I have hurt the wrist of my foot,” said a beautiful child, who never misplaced a phrase, because words were given him only as he stood in need of them. Now this pretty phrase, “wrist of my foot,” conveys the true idea of the ankle. It should have the grace and flexibility of the wrist, to which it corresponds.

*Said to be written by Professor Porson, during the Alarm of the French Invasion.*

Ego nunquam audiui such terrible news  
As at this present tempus my senses confuse.  
I'm drawn for a miles ; I must go cum Marte,  
And, comminus ense, engage Buonaparte.

Such tempora nunquam videbant majores,  
For then their opponents had different mores,  
But we will soon prove to the Corsican Vaunter  
Though times may be changed, Britons never mutantur.

Mehercle ! this consul non protest be quiet,  
His word must be lex—and when he says flat,  
Quasi Deus, he thinks we must run at his nod,  
But Britons were ne'er good at running, by G—.

Per mare, I rather am led to opine  
To meet British naves he would not incline,  
Lest he should in mare profundum be drowned,  
Et cum algâ, non laurâ, his caput be crowned.

But allow that this boaster in Britain could land,  
Multis cum aliis, at his command,  
Here are lads who will meet—ay—and properly work 'em,  
And speedily send them, ni fallor, in Orcum.

Nunc let us, amici, join manus et cordis,  
And use well the vires Dii Boni afford us ;  
Then let nations combine, Britain never can fall ;  
She's—multum in parvo—a match for them all.

**A SAND-GLASS USED IN CHURCH.**—A sand-glass for marking time having been seen in the Established Church of a parish near Perth, a gentleman residing near Dundee sent to the clergyman requesting particulars about it, and received in reply the following account of its purpose and uses : “Our sand-glass is a relic of antiquity. There used to be one in every church in the olden time. Their use was to regulate the length of the long-winded orations

with which the ministers of those days were wont to favor their hearers. Watches were not so common then as now ; and, as the sermons were not written, the preachers, when once set a-going, did not know when to stop without some reasonable monition. With a view to this, a sand-glass was erected on a stand in front of the precentor's desk, so as to be seen both by minister and people. When the sand ran out, the precentor, whose duty it was to attend to it, held it up in front of the minister, to let him know how the time was passing. But this did not always suffice to put a stop to their eloquence. There is a story told of an earnest preacher, who, on getting the customary signal, thus parenthetically addressed his hearers—“My brethren, the precentor reminds me that the time is up ; but I have still somewhat to add, so if you please, we shall have *one glass more*, and then—” I found our glass among some lumber, along with the tent which was used at the tent preachings, or ‘Holy Fairs,’ and got it restored to its ancient position as a curiosity. The stand is rather tastefully made of thin iron plates, and I thought it a pity it should be allowed to fall aside.”—*Scotsman*, Nov. 7th, 1859.

THIS epitaph will be found in Waddesdon church, Bucks, and reads as follows : “Guy Carleton, the second son of Thomas Carleton of Carleton in Cumberland, was born in the year of Christ 1514, and dying the 1<sup>st</sup> of June, 1608,

“Saluteth the Reader :

“‘Whilst I was yong in warres I shed my blood  
Both for my King and for my Country's good :  
In elder years my care was chief to be  
Soldier to Him who shedd his blood for me.  
Now restinge here in hope a while I lye,  
Farewell, good reader, never fear to die.”

He was probably father of George Carleton, successively Bishop of Llandaff and Chichester.  
—*Notes and Queries*.

From The Edinburgh Review.

*On Obscure Diseases of the Brain and Disorders of the Mind, their incipient Symptoms, Pathology, Diagnosis, Treatment, and Prophylaxis.* By Forbes Winslow, M.D., D.C.L., Oxon. London: 1860.

THERE is one, and but one, organ of the human body the symptoms of disorganization and the disturbed functions of which we read of with avidity and ponder over with wonder. The disorders which affect the material instrument of the mind result in consequences so momentous, follow paths so extraordinary, and present enigmas so countless, that the general reader may be excused for the curiosity with which he follows the physician in his details of morbid psychological curiosities, and hangs over the surgeon's scalpel as it searches out the pathological appearances from which they are presumed to spring.

The volume under notice is not by any means a mere collection of such facts; it claims the higher and more original duty of tracing out the various paths of departure from healthy conditions of brain, and of unmasking hidden phases of insanity. Here lies a whole realm of unbeaten ground, the value of which Dr. Winslow has been the first to draw public attention to, with a gravity the occasion requires. It is the opinion of many eminent physicians that the present century has witnessed a very large increase of brain disorders, and that this increase has taken place in an accelerated ratio as the strain upon the commercial and public life of the people has become greater. The intense competition which at present exists among all the liberal professions, the excitement accompanying the large monetary transactions which distinguish the trading of the present day, the gambling nature of many of its operations, and the extreme tension to which all classes of the community are subjected in the unceasing struggle for position and even life, has resulted in a cerebral excitement under which the finely organized brain but too often gives way.

Dr. Brigham, of Boston in the United States, gives a most deplorable account of the increase of cerebral disorders in his own country, in which he asserts that insanity and other brain diseases are three times as prevalent as in England. This statement would seem to confirm the notion that go-a-

headism—if we may be allowed the term—is straining the mental fabric to its breaking point. And we must remember that the mischief must not be gauged merely by the number of those who fall by the wayside; there must be an enormous amount of latent mental exhaustion going on, which medicine takes no count of. It is a matter of general observation that the children of men of intellectual eminence often possess feeble, if not diseased brains, for the simple reason that the parents have unduly exercised that organ. What applies to individuals, in a certain modified degree applies to the race. A generation that overtakes its brains is but too likely to be succeeded by a second still more enfeebled in its mental organization, and this exhaustive process must go on increasing if the social causes producing it continue in operation.

We have some means of measuring the magnitude of the evil where absolute lunacy is concerned, inasmuch as we possess official returns to deal with, which gauge its rate of increase or decrease with pretty tolerable accuracy; but we have no such means of ascertaining the nature of the increase of those no less grave disorders of the brain which do not bring the patient under the cognizance of the law. If we could take count of the number of able men who, at the very height of their efficiency and in the very plenitude of their power, are struck with insidious cerebral disease, such as softening of the brain; and drop out of life as gradually and as noiselessly as the leaf slowly tinges, withers, and then flutters to the ground; if medicine had any system of statistics which could present us with a measure of the amount of paralysis that comes under its observation, or of the apoplectic seizures which so suddenly blot out life,—we should doubtless be astonished at the very large increase which has of late years taken place in affections of the brain. It is just possible that the tendency lately observable in the community to take a little more breath in the race of life, to prolong the annual holiday, and to favor the habit of physical exercise, of which the volunteer movement is a noble example, will do something to check the degenerating process at present undoubtedly going on: meanwhile, we must see what we can do to remedy the existing evil. It is, we believe, within the province

of art to arrest in its earlier stages many disorders of the brain if notice were only given in time; but the golden opportunity is allowed to slip, and disordered function slowly but surely merges into disordered organization. We know full well that at least eighty per cent of cases of insanity are curable if treated early; and we also know that of those received into the great county asylums scarcely ten per cent ever recover. The difference between the two drop through into the condition of driveling idiots or of raving maniacs, simply because the curative influences of medicine has been sought too late. In some of the more obscure and fatal brain diseases, such as cerebral softening, general paralysis, epilepsy, etc., the neglect of early treatment is equally deplorable. The insidious approaches of mischief are often foreshadowed by symptoms so trivial that they pass unobserved by relatives and friends. The person so affected will frequently drop his stick or umbrella in his walk; he will in the slightest possible manner drag one leg, a finger will feel numb, or there will be some slight disorder of the sight.

"In the incipient stages [says Dr. Winslow] of cerebral softenings, as well as in organic disintegrations of the delicate nerve vesicle, observed in what is termed progressive, general, and cerebral paralysis, the patient often exhibits a debility of memory, long before the disease of the brain is suspected, in regard to the most ordinary and most trifling matters connected with the every-day occurrences of life; he forgets his appointments, is oblivious of names of his particular friends, mislays his books, loses his papers, and is unable to maintain in his mental grip for many consecutive minutes the name of the month or the day of the week. He sits down to write a letter on some matter of business, and his attention being for a second directed from what he is engaged in, he immediately loses all recollection of his correspondence, and leaves the letter unfinished. In this condition of mind he will be heard constantly inquiring for articles that he had carefully put aside but a few minutes previously."

The memory may be considered one of the most delicate tests of the presence of injury, or the progress of natural decay, in the brain. From the hidden storehouse of impressions which we know to be seated in the cerebrum or greater brain whilst in a state of vigorous health, by the act of recol-

lection we possess the marvellous power of reproducing the countless tableaux of scenes that have occurred during a long and busy life. Some persons never forget a face they have once seen, others will acquire with extreme rapidity a dozen languages containing hundreds of thousands of words, and store them for immediate use; the musician catches the floating notes of song, and they remain for a lifetime deeply graven on his memory. The artist packs away within his brain the image of the faintest flush of sunset or the thousand shades of sky, and reproduces them years after on his easel. It may be imagined that a tablet so sensitive to receive and so strong to retain an incredible number of images in a state of health is not unlikely to speedily make a "sign" of its impaired condition. A flaw in an Egyptian slab covered with hieroglyphics is pretty sure to obliterate some of them, and experience proves that brain injury is speedily shadowed forth by defects more or less grave of the memory. In the whole range of psychological inquiry there is nothing more remarkable perhaps than the "vagaries," if we may be allowed the term, played by the deteriorating agent in the storehouse of memory: sometimes it enters and for years annihilates the vast collection in an instant, only to restore them again as perfect as before; at other times it obliterates group after group of associated ideas in succession according to the order in which the brain has acquired them. Again a single letter in a word is all that the destroying power lays its hands upon among the immense magazine at its mercy. The chapter on the Diseases of Memory in Dr. Winslow's compendious and very interesting volume, is full of cases illustrative of the eccentricities presented to us by impaired and morbid memory; among the most remarkable of which is a case related by Dr. Graves of Dublin.

A farmer in the county of Wicklow in consequence of a paralytic fit suffered the following extraordinary impairment of memory. He could readily call to mind all parts of speech except noun substantives, and proper names. This defect was accompanied by the following singular peculiarity: he perfectly recollected the initial letter of every substantive or proper name for which he had occasion in conversation, though he could not recall to



his memory the word itself. Experience had taught him the utility of having written in manuscript the things he was in the habit of calling for, or speaking about, including the proper names of his children, servants, and acquaintances; all these he arranged alphabetically in a little pocket dictionary which he used as follows: if he wished to ask for any thing about a cow, before he commenced the sentence he turned to the letter C and looked at the word cow, and kept his finger and eye fixed upon the word until he had finished the sentence. He could pronounce the word cow in its proper place so long as he had his eye fixed upon the written letters; but the moment he shut the book it passed out of his memory, although he recollected its initial and could refer to it when necessary. Sometimes cerebral mischief is indicated by the mere transposition of letters. A gentleman on recovering from an attack of paralysis, for example, always said puc instead of cup, and gum instead of mug. It is very common for a person in ordinary speaking to use the wrong initial letter to a word; but the mind takes cognizance of the error as quick as thought and instantly reproduces the right letter, but in the wrong place: thus, in attempting to say a fat pig, if the tongue were to trip and say instead of fat, pat, the next word would inevitably be fig. The control of the healthy brain over minutiae of this nature, and the automatic manner in which it is exercised, are thus clearly exemplified; but in disease such slips escape notice altogether. The records of psychological medicine are full of instances of defects of memory equally trivial consequent upon lesion of the cerebrum. Thus, an old soldier, after suffering a loss of brain-matter from an operation, was found to have forgotten the numbers five and seven; and a schoolmaster consequent upon a brain fever lost all knowledge of the letter F. Whilst disease sometimes touches the memory in this delicate manner, in its more active phases it seizes the organ with a rude and stifling grasp, and removes at once whole masses of carefully acquired knowledge. An Italian gentleman, master of three languages, struck with the yellow fever, exhibited in the course of it remarkable phenomena. At the beginning of his attack he spoke English, the language he had acquired last, in the middle of it French, and on the

day before his death his native tongue. The total abolition of an acquired language is not at all an uncommon thing in brain disease, and as a rule the memory in such cases may be said to recede to those ideas engraven upon the memory in childhood. Those persons who have talked a foreign language all their lives will be found, to pray before death in their native tongue. There have been some remarkable exceptions to this rule, however, and Dr. Johnson when dying is said to have forgotten the Lord's Prayer in English, but to have attempted its repetition in Latin. Possibly the explanation of this exception may be found in the fact, that he thought habitually in Latin. There are not wanting instances, however, to prove that the memory under disease oscillates between the past and the present. For instance, Dr. Winslow records a case in which a gentleman after a serious attack of illness lost all recollection of recent events—his memory presented the tablet engraven with the images and ideas of his youth only; as he gained strength, however, the old and forgotten ones were revived. A still more remarkable instance of loss of memory and its sudden resuscitation we quote from Dr. Winslow's volume:—

“Reverend J. E., a clergyman of rare talent and energy, of sound education, while riding through his mountainous parish, was thrown violently from his carriage, and received a violent concussion of the brain. For several days he remained utterly unconscious; and at length when restored, his intellect was observed to be in a state like that of a naturally intelligent child, or like that of Casper Hauser after his long sequestration. He now in middle life commenced his English and classical studies under tutors, and was progressing very satisfactorily; when, after several months' successful study, the rich storehouses of his memory were gradually unlocked, so that in a few weeks his mind resumed all its wonted vigor, and its former wealth and polish of culture. . . . The first evidence of the restoration of this gentleman's memory was experienced while attempting the mastery of an abstruse author, an intellectual effort well adapted to test the penetrability of that veil that so long had excluded from the mind the light and riches of its former hard-earned possessions.”

It would seem as though ideas were registered on the brain in successive layers, the last lying uppermost; and that as the ner-



vous energy retreated, either as a consequence of disease or of gradual decay, so those ideas lost life *downwards*. The condition of the circulation of the blood through the brain in all probability has much to do with these changes in the vividness of the memory, as it is a known fact that some people recollect better by holding the head downwards; and Sir Henry Holland tells us that, after enduring great fatigue in descending one of the deep mines of the Hartz Mountains, he entirely lost his memory, which returned speedily again after he had taken rest and food. It is observable again that in morbidly active conditions of the cerebral circulation, such as occur in fever and on the approach of apoplexy, the memory is exalted in an extraordinary manner, and events are remembered with a vividness that is almost painful. In the rapid rush of the blood through the brain, that occurs in some excited stages of insanity, it has been remarked that patients have given signs of faculties which they had never evinced in a state of sanity; prosaic persons have suddenly become poetical, and those who normally had no head for figures, have in these conditions shown no ordinary aptitude for them. It would seem as though the blood when at this high pressure had penetrated portions of the brain hitherto but feebly supplied, and brought into cultivation cerebral wastes that were before barren. Dr. Winslow, in alluding to these exaltations of memory, draws the practical conclusion that in old persons these sudden lightings up of the memory should excite grave attention, as indicative of approaching fatal apoplexy.

We have yet to refer to a very extraordinary condition of brain which exists, in consequence of accidents producing concussion, in which memory, consciousness, and volition suffer for a time a complete annihilation, to be revived again at the exact stage at which they left off. A British captain, whilst giving orders at the battle of the Nile, was struck on the head and rendered senseless, in which condition he was taken home and remained at Greenwich Hospital for fifteen months, when the operation of trephining was performed, and the portion of the skull which pressed upon the brain was raised. Immediately consciousness returned, and he rose in his bed, and, without recognizing where he was, finished giving

the orders he had commenced issuing amid the din of battle fifteen months before. Extraordinary as this case may appear, it is far from being an isolated one. Prichard relates an instance in which the mind stood still for years instead of months, and yet took up the train of thought exactly at the point at which it had been dropped. A New England farmer, whilst laboring under some dissatisfaction at having disposed of his farm at a rate he believed below its worth, was engaged by a neighbor to enclose a piece of land with a fence. In order to split the timber he was obliged to use a beetle and wedges. These, on finishing the labors of the day, he put into the hollow of a tree, intending to direct his son to bring them home. That night he was seized with delirium; in this condition he remained for several years, when his mental power was suddenly restored. The first question he asked was whether his sons had brought in the beetle. Apprehensive of bringing on a return of the disease by entering into explanations, they replied that they could not find them; whereupon the old man rose from his bed, went straight to the hollow tree, and found the wedges and the ring of the beetle, the beetle itself having mouldered away. Thus the delicate unused nerve vesicle, which retained the recollection of where the tools had been placed, remained intact whilst the solid wood had perished. Sometimes the memory, not only of the idea upon which the mind was last occupied, but the very action of the muscles arising out of it, has been retained in the mind like a fly in amber. Thus a young girl of six, whilst catching playthings thrown by a companion seated on the pavement, fell and received a cerebral concussion, which rendered her insensible for ten hours. When she opened her eyes she jumped to the head of the bed, and asking "Where did you throw it?" immediately commenced throwing little articles of her dress from the bed, exclaiming, "Catch these!" and from that moment was perfectly restored. The exactitude with which the fractured ends of the severed idea fit,—severed as we have seen sometimes for years,—is very remarkable, and go to prove that there must be in such cases an instantaneous arrest of the action of the nerve vesicles without morbid change however, otherwise they could not at a moment's no-

tice resume their operation at the exact point at which they left off. We can only liken this extraordinary phenomenon of arrest of mind to some accident which has suddenly stopped a machine—the driving band has perhaps suddenly slipped off—and in this instance the driving band in all probability was the circulation of the blood through the brain—the motive power restored, the machine went on as before. That mechanical pressure upon the surface of the brain, which means an exercise of control over its circulation, according to the degree in which it is exercised, will produce different mental conditions from perfect coma to perfect sensibility—is well known. A man in Paris once made a living by allowing curious physiologists to make experiments of this nature upon him. He had suffered the operation of trephining, and his brain was covered by a thin membrane only, by applying graduated pressure upon which the man's relations with the whole external world could be cut off and restored by the mere action of the finger. At the will of the operator he lived alternately the life of the highest order of animal, or that of a mere vegetable. There is a very remarkable condition of brain, in which the mind of the individual is possessed with a double consciousness. Alternate states arise as distinct in themselves as though they belonged to two individuals. Dr. Mitchell relates a case of this kind which is so extraordinary that we must be pardoned for quoting it entire.

"Miss R—, possessing naturally a very good constitution, arrived at adult age without having it impaired by disease. She possessed an excellent capacity, and enjoyed fair opportunities of acquiring knowledge. Besides the domestic arts and social attainments, she had improved her mind by reading and conversation, and was well versed in penmanship. Her memory was capacious, and stored with a copious stock of ideas. Unexpectedly and without any forewarning she fell into a profound sleep, which continued several hours beyond the ordinary time. On waking she was discovered to have lost every trace of acquired knowledge. Her memory was a *tabula rasa*; all vestiges, both of words and things, were obliterated and gone. It was found necessary for her to learn every thing again. She even acquired, by new efforts, the art of spelling, reading, writing, and calculating, and gradually became acquainted with the persons and ob-

jects around, like a being for the first time brought into the world. In these exercises she made considerable progress. But after a few months another fit of somnolency invaded her. On rousing from it she found herself restored to the state she was in before the first paroxysm; but she was totally ignorant of every event and occurrence that had befallen her afterwards. The former condition of her existence she called the old state, and the latter the new state; and she was as unconscious of her double character as two distinct persons are of their respective natures. For example: in her old state she possessed all her original knowledge; in her new state only what she acquired since. If a gentleman or lady were introduced to her in the old state, and *vice versa* (and so of all other matters), to know them satisfactorily she tried to learn them in both states. In the old state she possessed fine powers of penmanship, while in the new state she wrote a poor awkward hand, having not time or means to become expert. During four years and upwards she underwent periodical transitions from one of these states to the other. The alternations were always consequent upon a sound sleep. Both the lady and her family were capable of conducting the affair without embarrassment. By simply knowing whether she was in the old or new state, they regulated the intercourse and governed themselves accordingly."

If there is any truth in our hypothesis of the memory of impressions lying in layers, superimposed one upon another on the surface of the brain, the alternation of the childlike and the adult state of intelligence would be accounted for by supposing that the level of the power that vivified the nerve vesicles stamped with the mental impression, stood at different periods at different heights, retreating in the childlike state to the lowest ebb, and again remounting to its full intellectual height in the adult period.

There is no circumstance with regard to the human economy more remarkable than the tolerance sometimes exhibited by the brain, of grave lesions and disorders within its substance. The popular idea that to touch the sensorium is tantamount to annihilating the life, is a monstrous fallacy. Soldiers have been known to carry bullets in their brains without any serious inconvenience, and heroic operations are often performed upon the cerebral mass without injury to the patient. A surgeon lately informed us that he had a young stable-boy

lately under his care, whose skull had been fractured by the kick of a horse and forced in upon the cerebral mass, so crushing it that a portion had to be removed; nevertheless the patient recovered, and it was remarkable that whereas, before the accident he had been subject to fits, and was rather a dull boy, after the accident he became much brighter, and continues so to this day. In all probability these fits were of an epileptiform character, owing to the pressure of a specula of bone upon the surface of the brain, and when this was removed by the operation, the cause that led to his dulness no longer existed. The kick of the horse was in fact the most fortunate thing that could have happened to him.

Dr. Ferrior relates the case of a man who retained all his faculties entire until the moment of his death, yet one-half of whose brain was on examination discovered to have been destroyed by suppuration. Dr. Heberden tells us of a man who performed the ordinary duties of life with half a pound of water resting on his brain; and a still more remarkable case is mentioned by Dr. O'Halloran in which a man suffered an injury upon the head which caused the suppuration of the skull, through which nearly one-half of the brain was discharged, mixed with matter, yet this man preserved his intellectual faculties until the moment of his death. Nevertheless, we are inclined to agree with Dr. Winslow that even in these anomalous cases there must have been some disturbance of the mental powers observable, had the attention of a competent observer been directed to them, and that as a rule it will be found logically true, that wherever there has been found the trace of organic cerebral change, there also must have been manifestations of mental disturbance. It is not often that fracturing the skull proves a curative operation, but there can be little doubt that mere accidental shocks to the sick brain have proved far more effective than even the skill of the physician. "I have been informed," says Dr. Prichard, "on good authority, that there was, some time since, a family consisting of three boys, who were all considered as idiots. One of them received a severe injury on the head; from that time his faculties began to brighten, and he is now a man of good talents, and practises as a barrister; his brothers are still idiotic and imbecile."

We have it on the authority of Petrarch, that a slight concussion of the brain wonderfully strengthened the memory of Pope Clement VI. It is equally certain that tumors have gone on slowly increasing within the substance of the brain itself without for a long time disturbing the mental power of the individual. The case of Dr. Wollaston is remarkably illustrative of this. His death was occasioned by a cerebral growth of this nature, which in all probability existed there from early youth, without perceptibly to ordinary observers affecting his intellect. At last it attained to such a large size that it encroached upon the cavities of the brain, and produced paralysis of one side of the body. Notwithstanding this his brain remained quite clear, and the last moments of his life were engaged in writing some figures in arithmetic progression, in order to convince his friends that, although his tongue was mute forever, his brain was clear.

In the great majority of cases, however, *post mortem* examinations present but faint signs of any lesion of substance, even where the mind during life has been thoroughly disordered. The physician but too often seeks in vain in the lunatic's brain for any trace of disorganization. He knows, nevertheless, that alterations of some kind must exist, and attributes his failure to the coarseness of the methods of examination at present employed. The scalpel alone will never find it out, and even the microscope as yet fails to detect departures from normal structure of so delicate a kind as those which are sufficient to overturn noble minds; and we entirely agree with Dr. Winslow in believing that, in order to detect the more subtle lesions of the brain, we must call in the labors of the Chémico-Cerebral pathologist. Sir B. Brodie has shown that the nervous substance of the brain is distinguished from all other tissues (the bones excepted) by the very large proportion of phosphorus which it contains, amounting to no less than 1.5 per cent. in 100, and if we speak of the solid matter alone, the important position held by this chemical agent in the brain is still more apparent, no less than one-tenth of the whole being composed of phosphorus. It is a well-known fact that any laborious mental exercise, indeed, any protracted exertion of the nervous system, results in a discharge of large quantities of the phosphatic salts by

means of the kidneys; this circumstance taken together with the remarkable fact that in the brain of the adult idiot there is a very small amount of phosphorus—not more than in that of a child—points to the conclusion that it plays a very important part in the substance of the mental powers. That in the large majority of cases of insanity the blood is mainly in fault, there can be little doubt; but when we remember how slight an alteration in the constitution of the vital fluid will produce cerebral symptoms of a very marked character, we no longer wonder at the pertinacity with which these changes have eluded our observation. There are certain moments before dinner when most men suffer what the late Dr. Marshall Hall called the temper disease, the amiable become suddenly unamiable, and the best of us snappish; the morale of the individual is entirely altered. Want of rest, again, will so exhaust the mind that people positively are subject at such times to delusions, imagining their best friends are slighting them, and exhibiting in various ways quasi symptoms of insanity. We very much question, however, if chemists yet possess skill enough to detect the temporary errors of the blood, which we know must have given rise to this condition of things. Let us ask again, In what particular does the blood differ during sleep from that which it presents in the waking state? It contains, we know, a trifle more carbonic acid; but surely, this addition will not account for the act of dreaming, in which we rehearse, as it were, in the inner world of the brain, the wildest thoughts of the insane.

If the pathologist is so often baffled in detecting actual disorganization of the instrument through which mind is manifested, the alienist physician is rarely at a loss to read the symptoms that during life are sure to present themselves. Dr. Winslow has cultivated a new field of research in those chapters of his work, in which he treats of the incipient stages of brain disease. The public are apt to date the amount of mental disturbances from some overt act, which has startled and compelled the attention of friends. Alas! the first overt act, in too many cases, has also been the last, and the verdict of suicide committed in a fit of temporary insanity is considered sufficient to exonerate all parties from any blame; but in every case the first overt act has been preceded by signs and

portents of the patient's state of mind, which the experienced eye could not fail to detect. The ink is scarcely dry which recorded the suicide of a very able chancellor of a western diocese. On the inquest it was stated that he had been troubled in his mind for several days previous to the catastrophe by an error of 2s. 7d. which he had made in his diocesan accounts. This symptom of a departure from the well-known ordinary masculine tone of his mind would have suggested to any skilful physician the necessity for having him placed under surveillance; had such a step been taken, his friends probably would not have had to lament his loss. It may be urged, we know, that if we refine too much in this direction, the merest effects of temper and exhibitions of eccentricity which constitute character will at last be looked upon and watched with suspicion, as indicating a tendency to mental disease, and that those only will be considered to be sane, who possess ordinary level minds without sufficient originality to go out of the beaten track. Such an error in reasoning no well-educated physician would be guilty of; but he would note with extreme suspicion any sudden change of a man's settled habits or revolution in his modes of thought. As Dr. Andrew Combe remarks:—

“It is the prolonged departure, without any adequate external cause, from the state of feeling and mode of thinking usual to the individual when in health, that is the true feature of disorder in mind; and the degree in which this disorder ought to be held as constituting insanity, is a question of another kind, and which we can scarcely hope for unanimity of sentiment upon.”

There are very many cases, however, in which insanity shows itself by a simple exaggeration of usually healthy conditions. In these cases the physician finds the greatest difficulty in saying where the line shall be drawn which shall bring the patient under the eye of the law. The naturally passionate man becomes outrageous, the religious person becomes fanatical, the vain exceedingly boastful, the liberal extravagant; the only departure from the ordinary mental condition in these cases, is an extraordinary exaltation of the passions and emotions. It is cases such as these which produce so much misery in the domestic circles, inasmuch as the present state of the

lunacy law does not justify their being placed under control. A person thus affected may with impunity squander his whole substance and bring his family to ruin; he may render them miserable for years by the most unfounded suspicions; he may bring disgrace upon his name by exercising that excess of the secretive power which finds its climax in meaningless petty thefts. The condition of sanity and insanity in such cases graduate so imperceptibly into each other, that the physician scarcely dares to give a certificate of insanity; and many families are forced to stand idly by whilst they see themselves irretrievably devoted to ruin, merely because the rigid rules of the lunacy law cannot be made flexible enough to meet the ever-varying phenomena of diseased mind.

The difficulty of discovering the physical cause of many forms of insanity is easily accounted for, if Dr. Winslow is right in his hypothesis that there is such a thing as a co-ordinating mental power, the disease of which is liable to produce the strongest psychological eccentricities. The later physiologists hold that the physical actions are governed, as it were, by a special power which is believed to reside in the cerebellum, or lesser brain; and the disease popularly known as St. Vitus' dance is supposed on very good grounds to arise in consequence of a derangement of that power. The patient cannot conduct the food to his mouth; his legs go every way but the right one when he attempts to walk; he makes the oddest grimaces when asked to look you in the face; and in short, he is so incapable of performing one act of volition as he should do, that the disease is aptly called "the insanity of the muscles." The extraordinary physical exertion performed by persons so affected is almost beyond belief. Dr. Abercrombie relates the case of a lady who would sometimes throw her whole body into a kind of convulsive spring, by which she would leap as a fish may do, from the floor on to the top of a wardrobe full five feet high; at other times she would rotate her head for several weeks together. Others have been known to rapidly rotate the whole body for a month continuously; one extraordinary case is on record in which a young girl became possessed with the idea of standing upon her head with her feet perpendicularly

upwards; as soon as she had accomplished this position she fell as if paralyzed, and then commenced the same action again, continuing it fifteen times in a minute for fifteen hours in the day! Insanity of the muscles is indeed an appropriate name to give to such an affection. Having contemplated the frightful effect of disease of the co-ordinating power, let us for a moment consider the exquisite nicety with which that power, when in health, adjusts the muscles to perform any specific act. Let us take for example the muscles of the arm of Paganini in drawing forth the exquisite tones of his violin. It is almost impossible to conceive the precision and *aplomb* with which different groups of muscles must have been directed to produce the delicate shades of music he called forth by a simple act of volition, yet this accuracy, however often repeated, never failed him. Let us grant that there is some co-ordinating power—some executive presiding over the just association of our ideas—and there is no incoherence for which its disease may not be held responsible.

"There is no fixed or even transient delusion," says Dr. Winslow in the case of Psychological Chorea. "In these cases the insanity appears to depend upon a disordered state of the co-ordinating power (eliminated in all probability in the cerebrum) and paralysis of what may be designated the executive, or to adopt the phraseology of Sir William Hamilton, regulative, or legislative faculties of the mind. The patient so affected deals in the most inexplicable absurd combinations of ideas. Filthy ejaculations, terrible oaths, blasphemous expressions, wild denunciations of hatred, revenge, and contempt, allusions the most obscene, are often singularly mingled with the most exalted sentiments of love, affection, virtue, purity, and religion. . . . I have often known patients while suffering from the choreic type of insanity, alternately to spit, bite, caress, kiss, vilify, and praise those near them, and to utter one moment sentiments that would do honor to the most orthodox divines, and immediately afterwards to use language only expected to proceed from the mouths of the most depraved of human beings. This phase of mental aberration is often seen unassociated with any form of delusion, hallucination, or illusion."

What the nature of this mental regulative force may be we know no more than we do of the muscular co-ordinating power. Phys-



ical methods of inquiry tell us nothing, and cannot be expected to do so.

It has been said by Cicero that if it had been so ordered by nature that we should do in sleep all we dream of doing, every man would have to be bound down before going to bed. It does seem remarkable that during one-third of our lives we should be liable to a derangement of the mental power (for such is dreaming), which in our waking state would render us liable to be placed in a lunatic asylum. The very intimate connection undoubtedly existing between dreaming and insanity has in all times attracted the attention of psychologists, and of late physiologists have directed their attention to the physical conditions which give rise to the former very remarkable state. Dr. Marshall Hall believed that sleep is produced either by some constriction of the great vessels of the neck, or by a sluggishness of the respiratory organs, either cause leading to a venous condition of the blood calculated to produce somnolency. We know that every degree of insensibility, up to complete coma, can be produced by simply allowing the neck to rest with the weight of the trunk against a tightened cord. Nature has, therefore, only to contract the great vessels periodically to bring about the state of things we so readily do artificially; but sleeping is not dreaming, says the reader. Certainly not; but it is the dark background on which the pattern of our dreams is woven, and in all probability the condition of the circulation through the brain which produces it is also answerable for the diversified pattern itself. The absence of volition, says Dr. Darwin, distinguishes the state of sleep from the waking state. This proposition is, however, rather too sweeping, for in all probability there is no such thing as perfect sleep or absence of volition, any more than there is any position in which every muscle of the body is totally at rest; at all events in dreaming there are many reasons which lead us to conclude that the different portions of the brain sleep unequally, and this inequality possibly arises from the position of the head, directing a fuller flow of blood to one part of the brain than to others, or from its detention in given portions. If we examine a dream narrowly we find that volition may or may not be excited, according to the nature of the excitement created

in the mind by the illusion passing before it. For instance, it often happens that we dream we are pursued by a mad bull or by an assassin, and the greatest distress is occasioned by finding that we can neither call out or run away. It again often happens to us that we dream we are suddenly falling down a precipice; but here volition is as it were suddenly awakened out of its sleep, for we find that, in the endeavor to save ourselves from falling, we jump up in the bed. We have here a proof that volition does not rest so soundly, but that it can be roughly and suddenly shaken into life. In somnambulism it is actively awake, although consciousness is perfectly dormant. There is also such a thing as day-mare—a condition of the brain which exists just as we are waking from sleep, when we are perfectly conscious, but unable either to move or to call out, volition in fact has slept longer than the other faculties of the brain. It is noteworthy, that sleeping on the back is generally assigned as a cause of night-mare, or that condition in which action seems most obstinately bent upon not answering the appeals made to it. This fact certainly seems favorable to a belief that position has something to do with the unequal manner in which the different faculties of the brain rest during sleep. The seat of the muscular co-ordinating power, the cerebellum in the recumbent position, may possibly suffer congestion in consequence of its lying partially under the cerebrum. The state of reverie or of day-dreaming presents many features which are very analogous to that of mental aberration. Except that we are conscious of our abandoning the fancy to its own will, this condition differs but little from that of dreaming. An indulgence in this habit tends to emasculate the mind. When long continued it is often, says Dr. Winslow, precursory of softening of the brain, and of the incipient stages of some types of mental disorders. Disraeli, in his "Contarina Fleming," has with intuitive genius seen this truth:—

"I have sometimes," he says, "half believed, although the suspicion is mortifying, that there is only a step between his state who deeply indulges in imaginative meditation, and insanity; for I well remember when I indulged in meditation to an extreme degree, that my senses appeared sometimes to be wandering. I cannot describe the peculiar feelings I then experienced . . . but



I think it was that I was not always assured of my identity or even existence; for I found it necessary to shout aloud to be sure that I lived; and I was in the habit very often at night of taking down a volume and looking into it for my name, to be convinced that I had not been dreaming of myself."

We may allude to one faculty of the brain which appears always to remain dormant during dreams: we allude to the faculty of wonder. The most incongruous images, the oddest combination of circumstances, the strangest persons present themselves before us at such times unchallenged. We converse with friends and relations long since dead, without feeling the least surprised at their resurrection. And why is this? Because the sense of the fitness of things is also wanting. How can we wonder when the standard of judgment is absent? And herein we find the extraordinary likeness between dreaming and certain forms of insanity. The co-ordinating psychical power in both cases is in abeyance. Sir Walter Scott has shrewdly said, that the only difference between the two states is, that in dreams the horses have run away with the coach whilst the coachman is asleep; in lunacy the runaway takes place whilst the coachman is drunk. This distinction is a nice one, but the effect upon the coach in the two cases is so remarkably alike, with the single exception of the absence of volition in the former, that we think the psychologist is justified in considering them associated phenomena of mind.

There have not been wanting cases indeed in which the first outbreak of insanity commenced in a dream.

"A gentleman [says Dr. Winslow] who had previously manifested no appreciable symptoms of mental disorder, or even of disturbed and anxious thought, retired to bed apparently in a sane state of mind; upon rising in the morning, to the intense horror of his wife, he was found to have lost his senses! He exhibited his insanity by asserting that he was going to be tried for an offence which he could not clearly define, and of the nature of which he had no right conception. He declared that the officers of justice were in hot pursuit of him; in fact, he maintained that they were actually in the house. He begged and implored his wife to protect him. He walked about the bedroom in a state of great apprehension and alarm, stamping his feet and wringing his hands in the wildest agony of despair. Upon inquir-

ing into the history of the case, his wife said that she had not observed any symptom that excited her suspicion as to the state of her husband's mind; but upon being questioned very closely, she admitted that during the previous night he appeared to have been under the influence of what she considered to be the nightmare or a frightful dream. Whilst apparently asleep, he cried out several times, evidently in great distress of mind, 'Don't come near me!' 'Take them away!' 'Oh, save me; they are pursuing me!' It is singular that in this case the insanity which was clearly manifested in the morning appeared like a *continuation of the same character and train of perturbed thought that existed during his troubled sleep*, when, according to his wife's account, he was evidently dreaming."

Sir Benjamin Brodie has referred in his Psychological Inquiry, to a very remarkable quality in the brain, a quality Dr. Carpenter terms unconscious cerebration. It often happens that after accumulating a number of facts in an inquiry, the mind becomes so confused in contemplating them, that it is incapable of proceeding with its labors of arrangement and elaboration; dismayed at the chaotic heap, it backs as it were upon itself, and we feel certain that it is of no use cudgelling our dull brains any longer. After a little while, however, without having once consciously recurred to the subject, we find to our surprise that the confusion which involved the question has entirely subsided, and every fact has fallen into its right place. Is it possible that the brain can, without our knowledge, select and eliminate, aggregate, and segregate facts as subtly as the digestive organs act upon the food introduced to the stomach? Sir Henry Holland is inclined to dissent from such a conclusion, and leans rather to the explanation of the phenomenon which Sir B. Brodie has himself suggested; viz., that the seeming ordering process may be accounted for by supposing that all the unnecessary facts fade from the memory, whilst those which are essential for the ultimate arrangement and classification of the subject under consideration are left clear of the weeds that before encumbered them. But this explanation involves a confession of an eliminative process going on unconsciously in the brain which appears to us to be little less wonderful than a hidden cogitation. Why should the unessential facts alone fade? We see no reason why we should refuse

to recognize masked operations of mind. Surely, we see every day examples of cerebral acts being performed of which the individual is afterwards totally oblivious. Let us instance, for example, the mental impressions engraved with a searing iron, as it were, upon the brain in the moments of delirium. Under chloroform, again, the mind is often in a state of great exaltation, and goes through mental labor of a kind calculated, one would imagine, to leave lasting traces behind it on the memory; nevertheless water does not more readily give up impressions made upon it than does the tablet of the brain under this influence. Even in dreams, of which we take no note, but which are patent to bystanders by our speech and actions, there must be plenty of "unconscious cerebration." Indeed, Sir Henry Holland, in referring to the vague feeling that all of us at times have experienced when engaged in any particular act, that "we have gone through it all before," endeavors to explain it by supposing that the faint shadow of a dream has suddenly and for the first time come to our recollection in a form so unusual that it seems as though we had acted the part before in another world. That we go through brain work unconsciously we have therefore no doubt; and we see no reason why we should deny the existence of a power seated in the brain, whose duty it is silently to sift the grain from the husk in the immense mass of mental pabulum supplied to it by the senses.

There can be found no more curious chapter in the history of the human body and mind than that which relates to the phenomenon of morbid attention directed to its different organs. The power of influencing any particular portion of the animal economy by the concentration of our attention upon it, is so marvellous that we wonder the method of its action has not been more thoroughly investigated than it appears to have been. It would seem as though the mind possessed the power of modifying the functions of distant parts of the body, and of exciting sensations quite independently of any act of volition. The mere act of attention to any particular organ over which we possess no muscular control is sufficient to produce some alteration of its functions. Thus we may will that a spot in the skin shall itch, and it will itch, if we can only

localize our attention upon the point sufficiently; by directing our thoughts to the heart it rapidly beats; by soliciting the lower intestine it is quickly brought into action. There is scarcely an organ of the body which is not liable to be interfered with by simply concentrating the attention upon it. Whole regions of superficial nerves, such as those of the skin in the neck, may be exalted in their action to the highest degree by the mere expectation of being tickled there. This nervous attention may become so persistent as to cause actual disease. We have a familiar instance in dyspepsia, where the patient is forever thinking of his stomach, and at last diseased function degenerates into diseased organization, and he falls into the condition of a helpless hypochondriac. But if an attitude of concentrated attention upon his mere animal functions is thus capable of producing disease in them, what effect has it upon the mind itself? Sir Henry Holland has remarked that it appears to be a condition of our wonderful existence that while we can safely use our faculties in exploring every part of outward nature, that we cannot sustain those powers when directed inward to the source and centre of their operations—in other words, the mind, when it persists for any length of time in analyzing itself, scorpion-like, stings and destroys its own action. That we can as readily injure our brains as our stomachs by pertinaciously directing our attention to fancied diseases in them cannot be doubted, and that mere perversion of ordinary modes of thought, such as may exist in minds only functionally disordered, may be fixed by the action of morbid attention so as to constitute permanent aberration, is equally certain. Hence as Dr. Winslow says, "the extreme danger of not exercising like trustworthy sentinels a watchful supervision and active controlling influence over every thought, and the evil that arises from not keeping in a state of strict subordination the mental emotions. The fearful mischief from neglecting by resolute mental efforts to battle with the erratic suggestions of an unduly excited and flighty imagination, to keep in abeyance and even to strangle in their birth unhealthy impressions struggling to fix and engraft themselves upon the easily moulded, plastic, and yielding fancy, cannot be over-estimated or exaggerated." And let it not

be supposed that this is needless advice, or that it is a rare thing to find reason struggling manfully with the promptings of insanity. Bishop Butler tells us that he was all his life struggling against devilish suggestions, and nothing but the sternest watchfulness enabled him to beat down thoughts that otherwise would have maddened him. His case was but an example of that of thousands of persons with whom we come in contact every day, who under a calm exterior conceal conflicts between the reason and the first promptings of insanity of the most terrible kind.

It is not within the province of this article to enter into the professional treatment necessary to combat the various forms of cerebral mischief so graphically detailed in Dr. Winslow's volume, which to the general

reader is as interesting as a romance, whilst to the psychologist it is fraught with the deepest interest, not only as a storehouse of fact bearing upon brain disorganization, but also as a philosophical exposition of the fine and graduated links which connect healthy and disordered minds. But it will be at least consolatory to those who view with alarm the symptoms of increased cerebral disorders in the community, that the means of grappling the evil are not wanting. "I am satisfied," says the author, "that it is in our power to arrest the progress of the fatal cerebral disorganization that so often follows, after the lapse of years, injuries to the head, if we do not sleep at our posts, and are on the look-out for the first scintillations of brain disorders, for, as Dr. Grieves has sagaciously said, 'It is not enough to treat them when they come, THEY MUST BE SEEN AND MET COMING.'"

#### LYCEUM LECTURERS.

Alger, the Rev. Wm. R., Boston, Mass.  
 Balch, the Rev. William S., Ludlow, Vt.  
 Bartlett, the Rev. Alvin, Brooklyn, N. Y.  
 Beecher, the Rev. Henry Ward, Brooklyn, N. Y.  
 Beecher, the Rev. Thomas K., Elmira, N. Y.  
 Bellows, the Rev. Henry W., D.D., New York.  
 Benjamin, Park, New York.  
 Blackwell, the Rev. Antoinette L. Brown, New York.  
 Boutwell, the Hon. George S., Groton, Mass.  
 Bradburn, the Rev. George, Althol, Mass.  
 Burleigh, William H., New York.  
 Buchanan, Dr. J. R. Cincinnati, Ohio.  
 Burlingham, the Rev. J. H., New York City.  
 Chapin, the Rev. E. H., New York.  
 Coggeshall, W. T., Cincinnati, Ohio.  
 Cox, the Rev. S. Hanson, D.D., Attica, Wyoming Co., N. Y.  
 Culver, E. D., Brooklyn, N. Y.  
 Curtis, George William, New York.  
 Cutler, E. J., New York.  
 Cutting, the Rev. S. C., Rochester, N. Y.  
 Dall, Mrs. C. H., Boston, Mass.  
 Davidson, the Rev. Dr., New York.  
 Dewey, the Rev. Orville, Boston, Mass.  
 Douglas, Frederick, Rochester, New York.  
 Elder, Dr. William, Philadelphia, Pa.  
 Emerson, Ralph Waldo, Concord, Mass.  
 Fletcher, the Rev. J. C., Newburyport, Mass.  
 Fowler, Prof. John W., Poughkeepsie, N. Y.  
 Frothingham, the Rev. O. B., New York.  
 Giles, the Rev. Henry, Milton, Mass.  
 Giddings, the Hon. Joshua R., Jefferson, Ohio.  
 Godwin, Parke, New York.  
 Hale, John P., Dover, N. H.  
 Hayne, Paul H., Charleston, S. C.  
 Hedge, the Rev. F. H., D.D., Brookline, Mass.  
 Henry, the Rev. C. S., D.D., Poughkeepsie N. Y.

Higginson, the Rev. Thomas W., Worcester, Mass.  
 Hitchcock, Prof. Edward, Amherst, Mass.  
 Holland, Dr. J. G., Springfield, Mass.  
 Hopkins, the Rt. Rev. Bishop John H., Burlington, Vt.  
 Hosmer, Wm. H. C., Caledonia, Livingston, Co., N. Y.  
 Lippincott, Mrs. Sarah J., Philadelphia.  
 Lord, the Rev. John, Stamford, Conn.  
 Mayo, the Rev. A. D., Albany, N. Y.  
 May, the Rev. Samuel J., Syracuse, N. Y.  
 Neal, John, Portland, Me.  
 Osgood, the Rev. Samuel S., New York.  
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 Simms, W. Gilmore, L.L.D., Charleston, S. C.  
 Smith, Elizabeth Oakes, New York.  
 Solger, Dr. R., Boston, Mass.  
 Spaulding, the Rev. A. F., Boston, Mass.  
 Stanton, Elizabeth Cady, Seneca Falls, N. Y.  
 Stone, the Rev. A. L., Boston, Mass.  
 Stark, William, Manchester, N. H.  
 Sumner, George, Boston, Mass.  
 Taylor, Bayard, Kennett Square, Penn.  
 Thompson, the Hon. John, Poughkeepsie, N. Y.  
 Thompson, the Rev. Joseph P., D.D., New York.  
 Thomson, J. R., Richmond, Va.  
 Thomson, Mortimer, New York.  
 Thoreau, Henry D., Concord, Mass.  
 Todd, the Rev. John, D.D., Pittsfield, Mass.  
 Upham, Prof. W. S., No. 100 Forty-seventh Street, New York.  
 Vinton, the Rev. Francis, D.D., New York.  
 Whipple, Edwin P., Boston, Mass.  
 Youmans, Edward L., Saratoga Springs, N. Y.  
 —Tribune.

From The Saturday Review, 13 Oct.  
ITALY.

THE battle of the 1st of October proved the military skill of Garibaldi, the courage of his North Italian veterans, and the insufficiency of his resources for accomplishing the task which he seemed to have nearly accomplished. But for the interference of Sardinia, the king of Naples would at this moment occupy a more favorable position than his daring adversary. If the well-conceived movement across the Volturno had succeeded, the royal troops would probably have re-entered Naples amid the applause of the worthless rabble which at present shouts in the train of Garibaldi. One or two additional reverses might have forced the liberating general back across the Straits, where a passage for a Neapolitan army is still kept open by the guns of Messina. If Francis II. had once more occupied his capital, Count Cavour's ingenuity would have been taxed to devise a plausible pretext for invasion, and even under present circumstances the Sardinian intervention constitutes a singular anomaly in international law. The awkwardness of an unprovoked attack on a sovereign who still holds a part of his dominions more than counterbalances the advantage of convincing Garibaldi that he stands in need of assistance. The question is still further complicated by the appeal to universal suffrage, which has been announced against the wish of all Italian patriots, probably under the suspicious dictation of France; for it is by no means certain that the numerical majority of Neapolitans desires the annexation which the educated and respectable classes are wisely endeavoring to carry out. Italian unity will be commenced under evil auspices if it is found necessary to repeat the intrigues and frauds which were perpetrated at Nice, and a dangerous precedent will be established when the peasantry and the mob are consulted on the choice between a new claimant of the crown and a government not yet overthrown. In Naples and in Sicily, a Parliamentary Constitution which has never been legally abrogated would have furnished a recognized and legitimate machinery for the national adhesion to the Italian monarchy; nor can it be doubted that Count Cavour, as a prudent statesman, would have preferred a secure and regular method of attaining his object. He may probably have sufficient reasons for deferring to the counsels of his imperious ally, but it is unfortunate that he should be compelled to adopt the rude contrivance which sanctioned despotism in 1851, and territorial spoliation in 1860.

If due allowance is made for the inevitable difficulties of the situation, the ministerial

statements which have been addressed to the Sardinian Parliament may be considered as singularly able and judicious. It was necessary to reconcile the national feeling to the abandonment or postponement of designs against Rome and Venice, and it would have been invidious to confess that in either case the objection to the enterprise consisted in its impracticability and danger. Accordingly, Count Cavour apologizes for the maintenance of the truce with Austria by a justifiable reference to the wishes of Europe, and he declares that an attack upon Rome would be a proof of ingratitude rather than of insane temerity. It is true that the French occupation of Rome is an act of lawless violence, more insulting to Italian feeling than the Austrian possession of Venetia; but an intelligent audience willingly dispenses with the communication of patent and unseasonable truths. The Parliament of Turin can entertain no doubt that, if the undertaking were feasible, Victor Emmanuel would sweep the peninsula clear of every foreign soldier, without regard either to conventional obligations of gratitude or to diplomatic remonstrances. It was sufficient for the minister to show that the hasty menaces of Garibaldi might be repudiated, under the presence of necessity, on tolerably decorous pretexts. The vast schemes of aggrandizement which he proposes furnish a still more satisfactory excuse for his abstinence from hopeless projects of ambition.

Since the days of the French Convention, no elected Assembly has ever been invited to vote on so daring a proposal as the annexation of a territory as large and as populous as its own. Some color of law is useful in carrying out the most exceptional measures; and whatever objections may be raised by international jurists, the requisitions of municipal legality are satisfied by the parliamentary authority which has been conceded to the king. As far as his North Italian subjects are concerned, Victor Emmanuel is entitled to accept the sovereignty of Naples and of Sicily, and a further object of profound policy was secured by the limitations which the minister attached to the vote which he demanded. It was almost as important to exclude opportunities of negotiation as to secure for the policy of simple annexation an approval which could not be doubtful. Any provisional government which may exist in the South will find it impossible to discuss the conditions of its resignation. The farce of universal suffrage must be more or less speedily performed, and then the country must accept the Piedmontese dynasty and Constitution without any reserve of provincial independence. If Garibaldi's advisers should induce him to

stipulate for future hostilities against Rome or Venice, the king's Cabinet will reply that Parliament has not delegated to the Crown any power of binding its own future discretion. In place of local privileges, Naples and Sicily will obtain a proportionate share in the national representation, and in the Italian Parliament zealous patriots may at their pleasure bring forward proposals for the completion of the great national enterprise. Notwithstanding the ominous rumors which have been current within the last few days, it is still not impossible that, under the compulsion of internal difficulties, Austria may hereafter be willing to retire from Italy. Count Cavour is perhaps justified in the belief that, even in Germany, opinion will at no distant day favor the liberation of Venice, and in the mean while it is certainly "untrue that the Venetians are peacefully submitting to their destiny."

With regard to Rome, the Sardinian minister justly relies on the growing conviction that liberty is not necessarily antagonistic to religion; and a future pope may perhaps think it unadvisable any longer to present himself to his countrymen in the character of a public enemy. The policy of France is inscrutable, and perhaps still undecided; nor is it easy to understand why the army of occupation should be doubled in the absence of all appearance of danger. It seems, however, to be generally believed that the Emperor Napoleon wishes to relegate the pope to some post in which he may more conveniently serve as an instrument of French ambition. The recent Allocution referred in terms of reproach to the broken promises of an august protector, and the staff of old women who are brawling and cursing under papal inspiration in all corners of Europe at present direct a large portion of their shrill imprecations against the imperial apostate. Pious Archbishop Cullen instructs his priests to pray for the defeat of the diplomacy of France as well as of England, and if any transfer of the holy see to Jerusalem has been ventilated, the suggestion must have proceeded rather from M. Thouvenel than from Lord John Russell. A pope who would adopt Italian sentiments would be valued and pampered by his countrymen for the same reasons which induced the patriots of Ephesus to applaud their great goddess Diana. Even in the absence of temporal sovereignty, the Vatican would be a more comfortable residence than the governor's palace at Jerusalem.

The advantage of parliamentary institutions has been once more illustrated by the recent debates at Turin. The demagogues who have attempted to mislead Garibaldi have been forced to defend or to disavow in

public the policy which, as long as it was confined to private suggestions and intrigues, might have justified general alarm. Some members of the extreme Opposition have been compelled to express a preference for federal union, while Bertani himself has professed unabated attachment to the person and dynasty of the king. Scarcely a voice was raised in favor of the mad project of a simultaneous attack on the forces of France and of Austria. Even the members who withheld their confidence from the government involuntarily sanctioned a large portion of the ministerial policy. The independence of a nation is more important than its internal organization; but it must not be forgotten that Italy is on the eve of obtaining political freedom as well as unity. Much remains to be done before the spirit of liberty is introduced into the administration and the habits of the people. Official supervision and interference are still almost as common in Piedmont as in France, and the revolutionary or Bonapartist invention of passports hampers locomotion in all parts of the continent. Yet the foundation and chief security of freedom consists in the control of a Parliament over policy as well as over finance and legislation. Through its chosen representatives, Italy will become every day more conscious of its unity, and the national sympathy will double the energies of the extended monarchy. A sanguine politician might indulge in the hope that, in the lapse of a few years, France may be the only refuge of despotism on the west of the Vistula.

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From The Saturday Review, 13 Oct.

#### FRENCH INTRIGUE.

THE sovereigns who are going to meet at Warsaw will have many very unpleasant subjects to talk over, and one of the most unpleasant and most interesting will be a subject on which they cannot utter any opinion to the world. Ostensibly, their meeting will probably end in formal lamentations over the turn things are taking in Italy, and in a solemn but vague denunciation of revolutionary doctrines. But really neither Italy nor the gospel of revolution will be uppermost in their minds. It is perfectly understood throughout Europe, and nowhere better than at the Tuileries, that the chief object of this Warsaw meeting is to organize a combination of forces sufficient to avert the dangers with which French intrigue is threatening the allied sovereigns. Austria fears for Hungary, and Russia and Prussia fear for Poland. It is notorious that, both in Hungary and in Poland, a party, the exact magnitude of which is probably unknown even to the secret police, reckons on the co-opera-



tion of France in case of an outbreak, and that this belief is encouraged, if not inspired, by the French government. But it is not only in the dominions of the sovereigns who now propose to combine that French intrigue is showing itself. In every part of Europe some scheme is on foot, which may possibly be worked out hereafter, and which, even in its faint beginnings, has the effect of keeping France prominent, and making the neighbors of France uncomfortable. It has often been said that Louis Napoleon was born a conspirator. He likes intrigue for its own sake, even if it comes to nothing: and probably no reputation is so dear to him as that of being a deep, dark man. He has the satisfaction of knowing that he has now fairly won this reputation, and that French diplomacy is popularly considered one vast web of intrigue. But it is worth while remarking that French intrigue has two characters which, though shaded off into each other, are still separable: and the distinction between them throws great light on the Warsaw meeting.

When Louis Napoleon had gained all the advantages from the Crimean war which he could reasonably hope to get—when he had obtained by his intimate alliance with England a condonation for his past career, and had instilled a conviction into the army that while he was on the throne there would be no lack of the delights of war—he turned round and made a merit with Russia of having compelled England to discontinue the war. When he wished for another war, he first made a secret compact for an accession of territory from his ally, and then, if Mr. Kinglake's story is true, offered to place his ally at the mercy of his enemy. He takes every opportunity to get a footing wherever a footing can do him any good. The dangers of the pope compel him to occupy the capital of Italy with an overwhelming force—the dangers of the Syrian Christians compel him to send troops to a country so placed as to command Egypt and the route to India. Probably he has no single definite purpose in schemes like these; but he foresees several ends which they might be made to promote, and meantime, they will keep up his prestige. It may be very useful to him that the head of his Church should be his prisoner, and it may be very useful that the independence of the future kingdom of Italy should be checked by strong French positions in its centre. In the same way it may answer, if Syria becomes a French province, to carry out a favorite plan of some of the emperor's adherents, and establish the pope at Jerusalem. The very circumstances, also, of the position in which he has chosen to place himself compel him to use a certain amount of that

kind of deceit which deceives nobody. He plans at Chambéry the Piedmontese conquest of the Marches and Naples, and then, when the first steps are taken to carry the plan into execution, he withdraws his representative from Turin. But in all intrigues of this kind he is only acting as restless, unscrupulous sovereigns have acted from time immemorial. It is among the oldest resources of statecraft to dupe an ally, to keep a hold on a friend, and try to frighten the world by an endless succession of surprises. When once a sovereign has shown that he is inclined to employ these resources, neighboring states have nothing more to do than to abstain from trusting him, and to be ready to fight when his intrigues involve them in any serious peril.

But there is also another phase of French intrigue which is much more like the intrigue of a conspirator. In every country there are some persons who, if not exactly disaffected, wish vaguely for a change, and like the importance of being in communication with a great foreign power. In the states of the sovereigns who are to meet at Warsaw there is a large party who would revolt if revolution seemed to promise a tolerable chance of success. Louis Napoleon is engaged in ceaseless intrigues with the party, of whatever kind it may be, that is opposed to the government of other sovereigns. He keeps before some set of people or other that they would in some way gain if a change took place in the condition of the country to which they belong. And he teaches them to associate the idea of French help with the hope of this profitable change. The means by which he works, and the ends he proposes to himself, are as different as possible. Sometimes he uses royal pretenders, sometimes he stirs up the democracy, sometimes he appeals to the selfishness of traders, or holds out the bribe of future office before needy adventurers. The French government took a more than friendly interest in the Ortega plot in Spain. It encourages, through the Hungarian exiles in Paris, the revolutionary party in Hungary. It whispers hopes to the Poles. In Rhenish Prussia, and, as it is now said, in the island of Sardinia, it has emissaries explaining, as its emissaries explained to the Savoyards, how very great the advantages are of being French. This intrigue differs from the other kind of intrigue in being so much more indirect and intangible. It has no beginning or ending, no acknowledged source, no responsible head. When the emperor courts Russia, or arranges with Victor Emmanuel the price of a campaign, or sends his vanguard into Syria,, he acts in a way which, however reprehensible, is at least within the recognized

limits of a sovereign's power. Europe can appeal to him, and judge him. He is responsible, and he accepts the responsibility. But no one can call him to account for the underhand arts with which he conspires against his neighbors. He does not connect himself directly with the machinery that he keeps at work. Intrigue of this kind brings with it a peculiar danger for those against whom it is directed. It not only keeps up the disaffection and confusion which it is intended to promote indirectly, but it sets on foot a vast mass of conspiracy with which it is unconnected. Those who seek for a change set intrigues on foot, on the speculation that the great intriguing power will help them when the pinch comes. Very often there is much delusion in this, and the power in whom they trust may see clearly that it could not help them if it would, and may be perfectly resolved never to spend a sou to save them from the gallows or the sword. But the mischief is nevertheless done. The disaffection is spread far beyond the control of those who first set it going; and the revolutionary party affects, and perhaps learns, to believe, that it has always half a million of bayonets at its disposal when it pleases to call for them. This is the danger which the combination of the three great states represented at Warsaw is intended to avert. The sovereigns wish to make it clear to their subjects that France is not likely to help them. Even the most enthusiastic Pole or Hungarian can scarcely believe that France will voluntarily attack so formidable a coalition in order to set Poland or Hungary free. This we believe to be the chief object of the Warsaw meeting, and it is an attainable and a legitimate object. But every precaution must be taken to assure the world that it is only against French intrigue that the coalition is directed. We need not say how irreparable a mistake it would be if the sovereigns went further than this, and entertained for a moment any project of intervening in the territories of each other.

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From The Saturday Review, 13 Oct.  
THE PRINCE OF WALES IN THE UNITED STATES.

ENGLISHMEN should be able to estimate neither at more nor at less than its proper value the hospitable enthusiasm which has greeted the Prince of Wales in the United States. Nothing delights the bulk of our own countrymen like an opportunity for a burst of sentiment; and, if there be one feeling more than another to which they are charmed to give expression, it is the pleasure of informing a former enemy or rival that by-gones are by-gones, and that they bear no malice. The

crowds which followed Marshal Soult at the queen's coronation, and the shouting multitude through which the emperor of the French passed to the Guildhall, were thinking of the Peninsula and Waterloo; and there was a curious proof of the universal readiness to give way to such emotions in the story of the Edinburgh mob which assembled the other day to cheer that sweetest of princes, Napoleon Jerome, when he landed from his yacht at Leith. The chief sustaining influence which prevents the sentimentality of the British people from occasionally sinking into absurdity is the comparative quietude, the critical scepticism, and the "light irony" of the upper classes—characteristics which excite unspeakable indignation in English writers of a certain sort. The United States are England without its upper classes, and hence there is nothing to moderate the enthusiasm of an American mob, or to prevent its defeating its own object by exaggeration and extravagance. The multitude which crushes round the Prince is not denser or more wildly demonstrative than that which enveloped Jenny Lind; nor can we be sure that some day a contrary current of emotion will not wash back the grains of the sandbank very nearly in an opposite direction. But, at the same time, it would be a great mistake to suppose that the hearty welcome given to the heir of the British throne has no importance at all, though it may not have all the significance which a hasty observer might attribute to it. No American who has joined in this demonstration will be quite unaffected by it. To the end of his days he will be sorry if the amiable Prince whom he has greeted turns out a bad or weak sovereign. For the rest of his life he will be a little less liable to be caught by the anti-British commonplaces which pass current in America; he will be less ready to believe in the natural antipathy of the two branches which have parted from one great stock; and he will be a trifle more doubtful of the hideous designs which his political leaders lay from time to time at the door of Great Britain.

The Prince of Wales will certainly see some wonderful things in the United States, and it is much to be wished that he or those who are with him may have an opportunity of declaring how wonderful they think them. Chicago and New York are, each in its way, most astonishing cities, and a man must be very unimpressible not to marvel in America at the ease and rapidity with which the resources of modern society, wielded by an energetic race, have achieved the conquest of material nature. Scarcely less admirable are the refinement, which is considerably, and the comfort, knowledge, and intelligence which are extensively, diffused among

a people which has so short a history. If the Prince of Wales, speaking as a sort of representative of the British nation, could state publicly that he appreciates all this, he would do infinitely more good than most persons would believe likely to flow from so natural an avowal. For the soreness of Americans towards England arises in very great measure from the suspicion, in some cases not altogether unjust, that we do not give them proper credit for what they are and for what they have done. They have a "peculiar institution" of their own, which makes them singularly sensitive on such points. Once a year they meet together in solemn state for the express purpose of praising themselves. In a natural and healthy condition of things a good deal of the eulogy developed would diffuse itself among foreign nations; but Americans are not satisfied with the quantity taken off their hands, and are therefore driven to re-absorb much of it themselves—a process which causes painful irritation. If they could only be persuaded that we do our best to relieve them, and that we do spare them as much of our interest as can be diverted from those movements of the European system which to us are vitally important, they would be a vast deal less eager to convince themselves that they have more sympathetic friends or more cordial allies in the French, or the Russians, or the Japanese, than in a nation which is flesh of their flesh. It is not, indeed, probable that the Prince of Wales will be able to make all the concessions which Americans sometimes seem inclined to demand as the condition of their friendship. It would scarcely be decent in the great-grandson of George III. to express admiration for the virtues of Washington and Franklin; nor is he likely to volunteer the confession that the eternal admiration of the world was merited, if not won, by the great battle at Bloody Tomahawk Lick, or by the defeat of H.M.S. *Midge* at the hands of the U. S. Frigate *Snapping Turtle*. But such admissions as can fairly be expected from the descendant of the king whose misdeeds are recited with rhetorical fervor in the Declaration of Independence, we trust he will find an opportunity of making as handsomely and as publicly as possible.

It is satisfactory to reflect that, if the Americans forgive George III. in the person of the Prince of Wales, they will have forgiven every thing. No man of sense or information now believes that the quarrel with the colonies would have proceeded to any dangerous length but for the obstinacy of the monarch. His people, it is true, gave him a languid support, for they knew that they had been put to great expense for the

defence of the plantations, and they suspected, not quite without reason, that the refusal of the Colonial Assemblies to be taxed without their own consent was in the main an excuse for paying nothing. But the people, little zealous in the matter at most, did not then govern the country; and the class which had till then governed it—the older titled aristocracy—was distinctly opposed to the war. The power exceptionally enjoyed at that time by George III. of indulging his own perverse crotchets was derived, first, from his determination to use his immense patronage for his own purposes, instead of delegating it to ministers, like the first two sovereigns of his race, and next from the almost simultaneous return of the English Jacobite gentry into the field of politics. It has been little noticed by historians that, just when the American War began, the Jacobites had finally lost interest in the House of Stuart, which was now sure to be extinguished. Both in the country and in the House of Commons they rallied to George III., and it was their unquestioning and unreasoning support which, combined with the purchased votes of the placemen, gave its strength to the new and fatally influential "Court Party." All through the struggle, the colonial revolvers were regarded by the English public as in alliance with the Opposition; and though the aspect of the contest was, of course, somewhat changed by the interposition of France, nothing has ever induced Englishmen to look upon it as a national strife. It is this which is at the bottom of that supposed underrating of the American successes which Americans constantly attribute to British jealousy. Why do you not frankly admit you were beaten? they angrily ask. The truth is, we have much less perfectly learned than the Americans to look upon ourselves as a nation foreign to our former fellow-subjects. The American successes produce on us the effect, not of Fontenoy, but of Marston Moor and Naseby; and if an Englishman who suffers himself to be annoyed by the narrative of the colonial victories is ever at the pains to analyze his feeling, he finds that what irritates him is the sense, not of a national, but of a party, defeat—the triumph, not of a hostile people, but of an adverse principle. Bannockburn is, in fact, a much more humiliating recollection to most of us than the whole American war. It is to be feared that American society, adulterated as it now is with Irish and German ingredients, has much more forgotten the brotherhood of race than we have, but the cordiality shown to the Prince proves that it has not quite fallen into oblivion.

From The Edinburgh Review.

1. *Transactions of the Royal Geographical Society for 1857, 1858, 1859.*
2. *Oriental and Western Siberia: A Narrative of Seven Years' Explorations and Adventures in Siberia, Mongolia, the Kirghis Steppes, Chinese Tartary, and Part of Central Asia.* By THOMAS WITLAM ATKINSON. London: 1858.
3. *Travels in the Regions of the Upper and Lower Amoor and the Russian Acquisitions on the Confines of India and China.* By T. W. ATKINSON. London: 1860.
4. *The Lake Regions of Central Africa. A Picture of Exploration.* By RICHARD F. BURTON, Fellow and Gold Medallist of the R. G. Society. 2 vols. London: 1860.
5. *Travels, Researches, and Missionary Labors during an Eighteen Years' Residence in Eastern Africa.* By the Rev. Dr. J. LEWIS KRAFF. With an Appendix by E. G. RAVENSTEIN, F.R.G.S. London: 1860.
6. *Travels and Scientific Explorations in Central Africa, during the years 1853 to 1857;* By Dr. EDWARD VOGEL, M.R.A.R.G.S.L., etc., etc. *With a brief Memoir of his Life to his reputed Death by order of the Sultan of Wadai; and a Sketch of the Geography of Central Africa.* By E. G. RAVENSTEIN, M.R.G.S.
7. *The Sources of the Nile: being a General Survey of the Basin of that River and of its Head Streams, with the History of Nilotic Discovery.* By CHARLES T. BEKE. London: 1860.
8. *The Colony of Natal.* By ROBERT JAMES MANN, M.D., Superintendent of Education in Natal. London: 1860.
9. *Seven Years' Residence in the Great Deserts of North America.* By the Abbé EM. DOMENECH. 2 vols. London: 1860.
10. *Narrative of an Expedition through the Southern Portion of Rupert's Land, from Lake Superior to near the foot of the Rocky Mountains, including the Region traversed by the Overland Route from Canada to British Columbia; with a Description of the Physical Geography, Geology, and Climate of the Country.* By HENRY YOULE HIND, M.A., Professor of Chemistry and Geology in Trinity College, Toronto; in Charge of the Canadian Assiniboine and Saskatchewan Exploring Expedition. With Maps of the Country explored, Geographical and Geological; and numerous Illustrations of Scenery, etc. London: 1860.

THE Royal Geographical Society, though comparatively of recent date, has already taken high rank among the scientific institutions of this country, and well merits that place by the energy and success with which it has pursued the objects contemplated in its original design. Every year has enlarged the sphere of action of this society, and given it closer connection with those various enterprises of research which, whether aided by government or not, are the offspring of English spirit and character; and belong fitly to a people filling all land and sea with their commerce, and holding possessions in every part of the globe. The Geographical Society has recently done much to direct and methodize, as well as to encourage, these researches. In pointing out the objects to be fulfilled, it expedites their attainment; and by giving earlier and wider publicity to the results, adds a powerful incentive to the ardor of discovery. While tracing the rivers, and traversing the deserts, of Central Africa; wintering amidst polar ice; or seeking ingress to the unknown interior of Australia, the traveller feels that all he does is reported and watched over with interest in England: and that touching word of *home*—almost peculiar in this sense to the English vocabulary—is more continually present to his thought, the end and the reward of the labors he has undergone.

The later volumes of the transactions of the society, admirably edited by Dr. Norton Shaw, attest all we have said in its commendation. They show further the growing connection of geography with other branches of physical knowledge, and very especially with geology;—sister sciences they may well be called, from the many relations linking them together. Several of our most eminent naturalists have a common interest in the geographical and geological societies, and have discharged with equal zeal the offices of both. One duty in common has been the delivery by the president of an annual address, relating at large the progress of the science during the year. These discourses form a very valuable part of the volumes of the Geographical Society now before us. The summary of what has been done tells more distinctly what there is yet to do, and gives guidance and incentive to it. Such collections of facts, moreover, furnished by different observers, and drawn from every



part of the earth, bring us nearer to those general conclusions, the object and end of all science. It is the better definition of this object which forms the characteristic of modern research, and contributes so greatly to its success.

Following in the train of these annual addresses, and, where needful, availing ourselves of them, we shall seek in the following pages to put before our readers the actual state of geographical knowledge; under a certain limitation, however, rendered necessary, as we shall speedily see, from the vast range now given to this field of research by those who have labored in it with highest zeal and success. And here we must pause for a moment, reminded by this very expression that we have lost within the last year two men who stood foremost among the number of scientific geographers. Baron Humboldt may almost be called the father of physical geography, since to his personal researches and various writings it is mainly indebted for the place it now holds among the sciences. The career of Carl Ritter was of a more reclusive kind, and less lofty in its scope. But his great work on geography will ever remain a monument of persevering and successful toil; distinguished above all things by a critical exactness as to facts, which makes it a model for every similar undertaking. Germany may well be proud of having produced contemporaneously two such laborers in this great domain of human knowledge.

It is Mr. Burke who speaks of Geography as "an earthly subject, but a heavenly study." If this description was justifiable then, much more is it so now, when our knowledge of the earth we inhabit has been enlarged, not solely by penetration into new lands and seas, but yet more by that close alliance with physical science in all its branches, of which we have just spoken; and which, while recording new relations of animate and inanimate nature on our own globe, denotes at the same time the many connections of terrestrial objects and phenomena with those belonging to the other worlds of planetary space. Physical geography, in its present aspect, is less a science in itself than a group of sciences blended by mutual services. It is the same correlation, and an admirable example of it, which is now giving a new form to the physical sci-

ences in their every part—the foundation already of great discoveries, and the fore-shadow of still greater to come.

Yet with all these attainments of modern geography, it is curious to note the prevailing want of a clear conception of the very phenomena on which this knowledge rests. How few of the many hundred millions who tenant the earth carry their comprehension beyond the physical conditions immediately surrounding them! How few, even of those better instructed, can truly conceive of the great globe on which they live,—loose, as it were, in space, and at every instant changing its place in the heavens; yet bound and tied by gravitation to the greater globe of the sun;—revolving every twenty-four hours on its own axis;—moving in its annual orbit with a rapidity above a thousand times greater than the speed ever attained by a railroad express; and, beyond all this, partaking in that mighty movement of the whole solar system, to which the astronomer sees no present limit of time or distance, nor any explanation of the forces, certain and vast though they be, which maintain this mysterious secular change. Those even to whom such astronomical conditions are familiar as facts, have difficulty in bringing the mind to comprehend these complex motions in space, fulfilled by forces which we can define only in their effects, though proved to pervade the universe of worlds.

How few again, save amongst those who traverse the great oceans, practically conceive of the rotundity of the earth, and of that relative distribution of the parts of its surface, making our colonies of Australia and New Zealand the antipodes of the little island which has sent forth its swarms to people and civilize this southern hemisphere. How strange, moreover, to those unused to such considerations, the fact that three-fourths of the total surface of the globe is deep ocean; obeying in its tides the attractions of the sun and moon, but except in this transient deviation, ever preserving the exact spheroidal figure which belongs to the primitive consolidation of the planet.

Then further, as to the structure of the great globe the surface of which we inhabit, how vaguely do we regard the wonderful problems it offers to physical research. Natural causes of elevation, dislocation, or



abrasion, together with the more partial results of mining and other human works, have disclosed to the geologist those remarkable successions of rocks—stratified or unstratified—recording anterior ages of life, or devoid of all tokens of it—which form the objects and the glory of his science. But this knowledge is superficial only, in the simple physical sense of the word. The inclination of the strata enables us to estimate depths of these masses far beyond those of the deepest mines, but still bearing the ratio of a few miles only to the diameter of the globe. We have further attained, by different means, some approximate results as to the specific gravity of the whole earth. All this, however, tells us little of the nature of the enormous mass of matter thus aggregated in the bulk of our planet; nor discloses, except by inference, the form and conditions of its aggregation. Such inference we chiefly draw from those curious observations in mines and artesian wells, which mark a temperature progressively increasing downwards from a neutral line near the surface, where external and internal causes of temperature balance each other. Below this line the heat augments at the rate of  $1^{\circ}$  Faht. for every sixty-five feet; the uniformity of result in different localities sufficing to establish the fact; and the conclusion from it, that at certain depths, the mass of the globe must become a fluid material—some such, we may suppose, as that poured out from the smelting furnaces of our great iron fields. The explorer of living volcanos treads his way over a stream of fresh lava, upon the thin crust covering the molten matter which slowly flows underneath. We have our dwelling on a similar though denser crust; everywhere wrapping round that fiery central fluid, from which are derived the materials as well as the physical forces, producing earthquakes and volcanic eruptions; and the slower displacements by elevation or depression, which are ever changing in one part or other the outward face of the globe. The medium thickness of this crust, not known from certain data, has been variously estimated. It is another example of the wonderful relations between branches of physical science seemingly the most remote, that we should have a calculation by an eminent mathematician of the thickness required to satisfy the theory of

the precession of the equinoxes; in which estimate Mr. Hopkins has further sought, by consideration of the relative conducting powers of crystallized and uncrystallized matter, to conciliate his result with the observed increment of heat in descending below the line of neutral temperature.

The establishment of such relations is the great gain, as it is the glory, of the science of our day. Their unexpectedness in many cases gives an air almost of romance to the solution we thus obtain of some of the most profound problems of the natural world. We might readily add numerous instances of like kind, in which the science of geography is closely concerned. Such relations occur chiefly within the wide circuit of physical geography; as distinguished from that artificial division and nomenclature which man has imprinted on the surface of the globe; and which maps, in one form or other, technically express to us. Under the latter more limited sense, the term geography was long applied; and even now the methods of geographical instruction are too exclusively moulded upon this conception. Its first and most needful office, indeed, must ever be that of an index to the living history of mankind;—a relation including all ages, and every region of the earth, whether peopled by savage or civilized life. Man, while associated with other and innumerable forms of being around him, is supreme upon the globe. His history, though late in the succession of time, if we look to the fossil records of the rocks, is that which we everywhere find written on the actual surface of the earth. He alone of the animal creation penetrates by land or water into its every part, the frozen seas of the polar circle, and the torrid deserts under the equator; urged not solely by those instinctive necessities which he shares with inferior forms of animal life, but yet more by his intellectual faculties, and those passions and propensities, which are blended with and define his being.

But this human history itself, the especial object and office of geography, is closely bound in by the physical conditions, to which we have already adverted as associating our knowledge of the earth with all other natural sciences. Scarcely is there one of those conditions which has not some concern, direct or indirect, with the exist-

ence and well-being of man. His progress and diffusion over the globe; his disseverment into races and communities; his advance in civilization and the arts and refinements of life, have all dependence more or less upon these physical causes. Without adopting all the deductions of Mr. Buckle, we may cite, as familiar instances to this effect, the various incidents of climate;—of plain or mountain region;—of fertility of soil;—of mines yielding metallic ores or fuel; of proximity to the sea; of facility of internal communication. These and other conditions may severally be modified or annulled for a time by others; but they never can be inoperative. In his animal existence, man has the same necessities to encounter, the same struggles to maintain, as other animals in the world around him. But he brings to this battle of life faculties and endowments which give him mastery over many of the physical conditions to which other animals inevitably yield. The very nature of the struggle to him is such as to exalt his powers of intellect and action, and to raise him above those mere instincts of animal life, in which he participates. He alone has powers which enable him to govern and apply to use all the great forces of nature, even such as might seem too vast and violent to be submitted to human control.

While seeking thus to give the largest signification to the term of geography; and to inculcate the teaching it in connection with the physical phenomena of the globe, as well as the history of man, we must here restrict ourselves chiefly to descriptive geography, as commonly thus understood; and to those records of discovery by land and sea which form the main subject of the volumes before us. And here we may first note the great advances made in all the methods by which these researches are carried on; the larger scope and more exact definition of inquiry; and the completeness of its fulfilment. Whether exploring countries untrudged before, or surveying those imperfectly laid down, the traveller now carries with him resources unknown to those of all earlier date. Though not perhaps especially furnished in any branch of physical science, his eye is more open to the general aspects of nature, and to those relations which pervade all parts of it. The admirable instruments

which science now furnishes for familiar use, are further concerned in the change we are denoting. Even the mere summer tourists of the world have received more of the leaven of general knowledge, fitting them better to profit by what they see; and instances are frequent of those who, going forth without plan or purpose, have returned the discoverers of new regions, and imbued with zeal and ability for further enterprise. Our colonies, again, those prodigies of an empire spreading itself over the whole earth, have nurtured men ardent in discovery, and in the development of those natural resources, so largely reciprocating to the mother-country the prosperous existence she has given to her offspring. Australia, New Zealand, Canada, and the Cape are examples in point. In India also, and especially on its northern confines, much has been done by public and private enterprise; fettered indeed in many respects, if facilitated in others, by those fluctuating conditions of war and sovereignty, which have marked the growth of our Indian empire, and still in some sort impend over its destinies.

In estimating our knowledge of the earth's surface, it is rarely considered how very recent the far greater part of this knowledge actually is. A period of less than four centuries includes the whole of that career of discovery, which began with the great exploits of Columbus, Vasco de Gama, and other navigators of the same stamp, and has since embraced the whole circumference of the globe. The ocean, navigated under better knowledge of the figure of the earth, and with the magnet in the hands of the mariner, gave passage to the New World, and fresh approaches to continents before imperfectly known. The spirit of bold and romantic adventure, the appetite for distant and undefined dominion, religious zeal for the conversion of heathen tribes, the ardor of commerce, and the thirst for treasure less lawfully acquired, were all awakened at the same time, and concurred to the same result. True geography may be said to date from the end of the fifteenth century. Since that time its progress has been rapid and constant; stimulated not solely by the motives just mentioned, but also, and more honorably, by the pure love of that science of nature which holds the whole surface of the earth as part of its great domain.

We might here pause a while, to compare and contrast our present knowledge of the globe, with those vague and limited conceptions, which formed the sole possession of even the most eminent geographers of antiquity. But this topic is probably familiar to most of our readers; and those who seek to study its details will find them recorded in the volume of Humboldt's *Cosmos*, with the vividness which belongs to all his writings. Limiting ourselves, then, to a brief notice of this subject, we may remark, that the globular form of the earth, distinctly propounded and illustrated by Aristotle, was familiar in idea to many of the ancient geographers; but for the most part wrongly applied to the actual delineation of the known lands or seas; and affording, of course, no just conception of the surface yet unknown. Two, especially, of the most remarkable of these old geographers, Eratosthenes and Ptolemy,—men who stood in advance of their times,—founded their delineation of the earth on the astronomical and geometrical data furnished by the knowledge of the age; the happiest application of which was that already made by Hipparchus, in marking the position of places by latitude and longitude, upon the same principle, though rudely applied, as that now in use. The great work of Strabo is more purely descriptive, but very valuable as such, as well as in its reference to other and earlier geographers. Pliny's *Geography* is but part of his *Natural History*, and must be regarded in the light of a mere compilation. The work of Pausanias, limited mainly to the geography of Greece, is an example of what may be done for historical and classical research by the exactness of personal observation.

Of the geographers just named, it will be seen that all but one were Greeks in race and language. Three of these, however, wrote as citizens of the vast empire of Rome, at a period when this wonderful sovereignty had reached its widest extent; and under a succession of emperors—Trajan, Hadrian, and the Antonines—who held it for a long series of years in tranquil and prosperous subjection. Even at this time the Mediterranean formed the centre of all that could be called true geography. Conquest, colonization, or commerce had made well known all the countries immediately bordering on this great inland sea; and more or less per-

fectly what lay beyond, within the boundary of the Roman rule. Some portion, indeed, of the southern coast of the Mediterranean, between Carthage and Alexandria, was even better known at that time than it is in our own day. But beyond the boundary of the empire, geography was little more than a vague picture of regions fading in the obscurity of distance; or known only by idle and superstitious tales, which the ignorance of the age credited, and its learning could not contradict. Towards the west, the Atlantic cut off all but an imperfect knowledge of the coasts of this ocean, and of the islands nearest to them. The commercial voyages of the Phœnician people—wonderful exploits under the modes of navigation then in use,—form a striking episode in ancient geography; yet withal so obscure, that even the labors of Heeren have failed to throw much light upon it. On the eastern side, a certain amount of knowledge was extended through Persia and India, even to the confines of China; but becoming more feeble at each successive step of distance. On the northern boundary it was yet more speedily lost in regions of forest, arid plains, or morass; and the vague notices of Scythia, Scandinavia, Sarmatia, etc., attest the scanty acquaintance with countries which could yield little to conquest, commerce, or colonization.

From this mere outline of ancient geography, we come at once to that of our own day; passing over those intermediate steps of discovery, through which we have reached our present knowledge of the earth's surface. These discoveries are mainly, as we have said, the fruit of the last four centuries. From the decline of the Roman empire to this recent date, geographical knowledge, in common with all other sciences, either was stationary or actually receded within narrower limits than before. Though the earliest discoveries of the period just named—comprising new continents and oceans, and the correction of the errors of ancient geography,—are the most striking results of this burst of human enterprise, yet no pause has since occurred in the progress of discovery. The broad lines at first sketched out have been gradually filled up in the intervening spaces and the *terra incognita* of the earth continually narrowed in extent. The motive power of steam—that mighty

agent of our own time—gives new faculties and facilities for all such research. Yet while admiring the magnificent steam vessels, which now plough the ocean, and penetrate into the interior of continents, we cannot forget what we owe to those bold navigators of an earlier age, who accomplished many of these very voyages in small barks or boats, scantily provided with all that is now deemed needful to safety and success. The early English discoverers in the arctic seas may well be cited as examples of this hardy and intrepid race,—the worthy precursors of the men who in our own times have devoted themselves to this arduous service. We need not here catalogue the names of either date. They will stand recorded in all future history of geographical research.

Though we have spoken of the *terra incognite* of the globe, as continually narrowed by modern discovery, yet is the unknown portion, or that imperfectly known, much larger than is commonly conceived. We circumnavigate it, indeed, with a commerce so vast and various, that the whole ocean surface, save that around the poles of the earth, may seem to be under our knowledge and command. We doubt not that in the end, all of land also, really permeable or profitable to man, will be brought under like subjection. But, meanwhile, there are still large gaps and voids in the interior of continents and islands, the objects of speculation to science and of adventure to future travellers. And in noticing these, as we are about to do, we at once illustrate the matter of the volumes before us, and show what yet remains to be done, before we have thoroughly mastered the surface of the world we inhabit.

We may remark here, in passing, how greatly our estimates, both as to *Space* and *Time*, those two great elements of human knowledge, are disturbed by the neglect to obtain a just comparative measure for each. Taking *space* as that with which we are now concerned, it is certain that we measure it for the most part by what we see around us; and though this loose estimate has been much corrected by modern travel, and by science brought into connection with geography, yet is common understanding often curiously in arrear on this subject. This is true, not only as to the physical conditions of space, and its relative extent; but we bring our

scanty European standard also to the numbers, civilization, religions and social usages, of the various races peopling lands of which we know nothing yet but the coasts or borders. The philosophy of geography and of human history alike require that we should gain the widest possible horizon to our view; checking thereby those partial or false conclusions which a limited knowledge is ever tending to impose upon us.

We have already spoken of the improved methods and appliances conducing to the progress of modern geography. One of the most striking of these, and the instrument as well as evidence of progress, is the modern map: in scale, exactness, and beauty of impression, a vast advance even upon those of half a century back;—a more wonderful contrast to the vague and faulty outlines which come down to us from the middle ages under this name. And not only faulty, but faithless also; the voids of knowledge being filled up with mountains, rivers, and cities, either wholly imaginary, or drawn from such loose report, that blanks left would have been a better alternative. The rudeness of these early attempts is often curiously shown in the scraps of landscape brought in to fill up the simpler delineation by outline. In passing from them to the maps of our own days, we seem approaching the works of a new and higher intelligence. Nor is this impression a mistaken one. The modern map,—take as the most eminent instance, that of the Ordnance Survey of the British Isles,—represents and embodies in itself the highest attainments of science and art; nor could it have been produced without them. Of the consummate accuracy of this great work—its foremost and most essential quality—we cannot give more striking proof than in the facts showing the perfect triangulation on which it is constructed. This perfection is such that in the five bases employed (varying from five to seven miles in length, and some of them four hundred miles apart), the greatest difference between the measured length and that derived by mutual computation from the triangles, does not exceed three inches. Or, taking the side of any one triangle as a base, the same exact length will be reproduced, when computed through the whole or any part of the series of triangles employed. Those who are so far familiar with the subject as to comprehend the per-

sonal labors, the refinements of observation, and the nice application of the most delicate instruments needful to such operations, will appreciate all that is admirable in the results thus stated. We might name, as instances of their relation to other parts of physical science, the use of the Drummond Light for distance signals in the survey; and the observations made in its progress of the singular deflections of the plumb-line in certain places from the true direction of the zenith; showing local causes of disturbance, the study of which may hereafter carry us further and deeper in the knowledge of our planet. Nor must we omit to mention the aids given to the Geological Survey of England, by the perfection of the Ordnance Survey. These two great works have gone on together with equal success, and mutual illustration from the methods of labor and observation in each.

This excellence in the design and execution of modern maps is not limited to our own islands. Many of the national maps of Germany, France, Italy, and Russia are little, if at all, inferior in merit; and our Indian empire may boast of a Trigonometrical Survey, which with the railroads and telegraphic lines advancing towards completion under the restored tranquillity of our dominions, will in the end bring these vast possessions into parity with the greater part of the European continent. In Australia and Canada similar government surveys are going on, at once denoting and developing the resources of those great colonies.

A map, as all know, is the delineation on a plane surface of what in nature forms a portion of a sphere, or, in strictness, an ellipsoid figure. The several methods of projection or perspective by which it is sought to obviate or lessen error in this translation from a spherical to a plane surface, are taught in most elementary books. We advert to them, merely that we may add a few words as to the relative value of the map and globe, as familiar exponents of geography. The former serves to all special delineations of the earth's surface; providing for any requisite degree of minuteness, and becoming free from theoretical error in proportion as the scale is enlarged. From maps we best obtain the political divisions of the earth, and all those marks which man has impressed upon its surface. But the teach-

ing of geography in its larger relations, is best effected by the globe; that simple and cheap piece of furniture, which ought to be found in every house; giving us knowledge, not equally supplied by any map, of the great outlines of the world at large. The very ease with which its position can be varied contributes to this instruction; for here, as in so many other cases, the senses curiously overrule the reason; and by the constant collocation of the same lines under one aspect, the mind gets bound down to a single image, and its comprehension is narrowed or disturbed. To illustrate this, let any one simply turn a map upside down, and he will find eye and reason both perplexed by the inverted outline thus brought before him. Or, rotating the globe into various unwonted positions, every such change brings fresh and unexpected perceptions to the mind; dislodging errors, or teaching new truths. Thus, if we place the southern pole uppermost, we gain a due conception, not otherwise obtained, of the vastness of the ocean surface of the globe; of the singular disproportion of land in the N. and S. hemisphere; and of the curious pyramidal projection of the African, South American, Asiatic, and Australian Capes into this world of southern waters. Such instances might be numerous given; and they have the psychological interest, just denoted, of showing how much we lie under the domination of the senses, even in the familiar case of studying the geographical outlines of the globe.

Examples of this kind illustrate more especially that method or principle of geography which looks to the broader features marked by nature on the surface of our planet, and in this way best seen and understood. Enough has been said on the importance of diligently studying these relations as a part of physical geography; and in connection with other sciences which come into close kindred with it. Such study is now greatly aided by works on physical geography (among which that of Mrs. Somerville stands foremost in excellence), and by those exact and beautiful physical maps, illustrating the natural phenomena of the earth's surface, which we owe to the labors of Mr. Keith Johnston. One result, and a very profitable one, of this method of geographical study, has been the greater attention given to the physical history of the



oceans and seas. In two former articles of this journal, on Maury's work on the Atlantic, and Admiral Smythe's volume on the Mediterranean, we have sought to embody in the history of these two seas—more interesting to the civilized world than any others of the globe—all the conditions which rightly belong to geography, and are necessary to its completeness. This great domain of the waters of the earth forms a scantier part of our geographical knowledge than it ought to do; seeing the vast proportion of surface thus occupied;—the wonderful actions of oceanic tides, currents, winds, temperature, and evaporation ever going on; the unceasing influence of these phenomena on all the continents and islands washed or encircled by sea; and the certainty that during the lapse of former ages vast changes by elevation or subsidence have occurred over the whole area thus denoted. The ocean, in its different depths, is further to be regarded as the great receptacle for that waste of the land continually in progress; and at the same time as giving space and foundation for what may be hereafter new lands raised above its waters. We might yet further speak of the multitudinous forms of life tenanted by its successive zones of depth;—some of them, by slow and silent succession in earlier ages, forming those great deposits, which, altered and raised out of the waters, become the calcareous strata of our present geological series; others of these foraminifera actually building up new islands under our eyes by the working of incredible numbers, under the special instincts of their existence. Such facts may seem to appertain to what is technically termed natural history; but they belong in a larger sense to the physical history of the earth; and our knowledge of this earth can never be complete, or even exact, without comprising them under one general view.

The remainder of this article we shall occupy in a rapid survey of those researches, recent or still in progress, by which we are advancing towards such completion. England, as is her right and duty, stands foremost in these undertakings; drawing indeed upon Germany for many zealous and intrepid travellers, who in various parts of the world, Africa, Australia, and Asia, have aided in her enterprises. The mental and physical temperament of the German people alike fits

them for such labors; and their education is of a kind to bring these faculties into full action. This testimony is due to the men who have worked together with us in geographical discovery; the community of race showing itself remarkably in the persistence and power of endurance so needful to success.

We begin our survey with the oceans of the globe. Vast though their expanse is, it may yet be affirmed that every part of their surface has been explored, save only that which surrounds the two poles, and is encircled, if not actually covered throughout, perpetual ice. All other ocean tracts have been submitted to the commerce or curiosity of man. The Pacific, the widest stretch of waters, and that last known to us, is now familiarly traversed by those many and magnificent ships which connect us with our Australian colonies: by the American trade connecting California and Oregon with the Eastern States, and with China in the west; and by those adventurous whalers, chiefly belonging to the latter nation, which roam over every part of this vast ocean, until fully laden with the spoils of the greatest living tenant of its waters. Cape Horn, once the terror of southern navigators, is now rounded every day by vessels charged with the mineral treasures of Australia. The opening of trade with Japan will make more complete our knowledge of the western part of the Pacific, and of that extraordinary chain of islands of which Japan is a member; stretching across from the Russian territory on the north-west coast point of America, to the south point of Kamschatska, under the name of the Aleutian Isles; thence southwards, to Japan as the Kurile Islands; and southwards again to the Philippine Isles, and the denser and more irregular group of the Indian Archipelago. A line of five thousand or six thousand miles in length is included in this chain; so marked in character and direction, that it is impossible, on the simplest inspection, not to see its dependence on some single physical action or change, the nature of which geology may unfold to us hereafter. Meanwhile, we mention it, as a striking example of those curious relations of land and sea, which it is the business of physical geography, as a science, to study and define.

We have spoken of the poles as undiscovered parts of the ocean. Even this, how-

ever, is going a step beyond our real knowledge, since we cannot affirm either pole to be actually covered with water. No theoretical consideration requires it to be so; and the utmost stretch of discovery, northwards or southwards, has not yet reached to points where such conclusion could be finally drawn. Sir Edward Parry's daring journey upon the ice, to the north of Spitzbergen, was arrested before he had reached the latitude of  $83^{\circ}$ ; and we have no authentic proof, though many doubtful stories, of any navigator having gone beyond. The captains of the old whalers were not very scrupulous as to their latitudes; and there was little check upon the desire to make a romantic tale of their near approach to the pole. Though without direct proof, however, the notion of a polar sea or basin is that generally held and expressed on our maps; with the further presumption that if it could be entered and traversed, a direct line of navigation over the pole would bring the arctic Columbus through Behring's Straits into the Pacific Ocean; a polar instead of a north-western passage; and the line from the Orkneys into the Pacific little longer than that from London to New York. Such voyage, however, will probably ever remain a matter of dreamy speculation. Though the current which checked Parry's advance, by carrying the ice to the south further than his daily progress northwards, gives sanction to the idea of a circumpolar sea; and though some have held that the maximum of cold is at the magnetic pole, and not at that of the earth, we must still presume obstacles from ice or other causes, in this unwonted course, which no science or intrepidity could hope to overcome.

Nevertheless we cannot yet consent to abandon altogether this north polar enterprise. There still remains a channel of approach, almost wholly untried; easily accessible from our own shores; and free, as far as we know, from those local conditions of islands and ice-bound straits, which have perilled and perplexed all navigators in search of a north-western passage. We allude to the sea lying east of Spitzbergen, between these islands and Nova Zembla. Ten or twelve days of fair navigation from the Orkneys, even without the use of steam, would bring a vessel to the latitude of discovery in this direction; or if Hammerfest

were made the port of departure, half this time would suffice. A few summer or autumnal weeks, with navigation aided by steam, might go far to settle the question whether there is any such access to a polar basin: or what nearest approach is possible to this mysterious point, so important in the physical theory of the earth's rotation. Such research, moreover, might have results of more practical value. The whale and seal fishery of Great Britain, though still very considerable from the ports of Peterhead, Aberdeen, and Hull, yet, with respect to the whales at least, has notably declined of late years. Whether these animals have been thinned by destruction in their old haunts, or been led by their sagacity as mammals to seek ocean solitudes less infested by man and his harpoon,—certain it is that some of the whaling grounds, most profitable in former times, are now comparatively deserted. Recent voyages through Behring's Strait, supplementary to the quest of a north-western passage from Baffin's Bay, have disclosed a new field, already eagerly appropriated by the active whale-fishers of the New England ports. It may be, that some similar discovery will result from the exploration of the seas east of Spitzbergen; and we state this chance as a further incentive to research, in a direction hitherto unattempted, and with means in our hands unknown at any former time of arctic navigation. We own our desire that the nearest approach of man to the pole of his planet should be due to English enterprise.

Such desire is not inconsistent with the opinion we have formerly expressed as to the inexpediency of any other public expeditions on that arctic coast of North America where the labors and successes of our countrymen during a period of full forty years have given us so much to admire;—alloyed by one great calamity, which we can never cease to deplore. The name of an eminently brave and virtuous man, Sir John Franklin, is bound up with the final discovery of the north-western passage, so long sought for; and it is a melancholy satisfaction to know that he himself died in his ship, before that time of more frightful distress began, of which we are glad to be spared any further narrative or knowledge. The names of Maclure and McClintock will be joined to his in the history of the discovery, together with those of

the many gallant men who bore part, by sea or land, in the earlier labors and perils of the research.

But the object of the north-western passage once attained, those stern regions of barren isles and ice-bound seas may wisely be left again to their primitive solitude. The passage, shown to exist, is utterly useless for any human purpose. All that physical science can learn from these voyages has been already gained. The northern magnetic pole has been reached; and all the magnetic phenomena incident to the neighborhood of this remarkable point duly recorded. The coasts of continent and islands have been geologically described; their scanty fauna and flora fully catalogued; and all other natural phenomena of land and sea, during the short summers and long, dreary winters of these regions, diligently observed.

Looking to this quarter, indeed, we can see but one single motive or direction for further enterprise. This is furnished by the remarkable voyage of Dr. Kane; and the alleged sight of an open sea, stretching polewards, in latitude  $81^{\circ} 20'$ . Had this intrepid man been the witness himself to the discovery, we should implicitly have received it as such. But coming to him on the very inferior authority of two of his crew, and contradicted in parts by their own narrative, we must at present hesitate in believing more than that Smith's Sound, instead of a closed inlet, may be a passage to straits or sea beyond. Any further attempt to solve this doubt will probably be made by Americans, zealous to sustain the reputation of their countryman, in confirming the main result of his voyage.

From the northern, we pass by a large, but natural stretch, to the southern polar circle of the globe. The progress of discovery, for obvious reasons, has been far less active in this antarctic region. Its distance from the centres of human commerce and civilization; the vast preponderance of ocean in this hemisphere; and the greater cold of high southern latitudes; are all causes tending to check enterprise in this direction. Nevertheless, the active spirit of the time in which we live has found a vent here as well as elsewhere; and England has still kept her foremost place in the path of discovery. The bold enterprise of some of our South

Sea whalers first made known to us the South Shetland Isles, six hundred miles south of Cape Horn, and other portions of more or less continuous land beyond, or further to the east; the possible parts of an antarctic continent, which has so often been the theme of geographical speculations. The question of such a continent yet lies open to future research. Three national expeditions, English, American, and French, were engaged almost simultaneously, about twenty years ago, in seeking for its solution; taking Hobarton, in Tasmania, as their point of departure. Of these expeditions, the one under Sir James Ross, admirably commanded and provided, was far the most successful in all its issues. For two successive years Sir James Ross, already eminent as an arctic navigator, succeeded in carrying his ships nearer by several hundred miles to the antarctic pole than any preceding discoverer in these solitary seas. The extreme point attained in the first year was  $78^{\circ}$  S. lat.; the second season carried him a few miles further south, but on a different line of longitude. In these voyages and high latitudes, he traced a line of coast long enough to be designated as a continent, and made more remarkable by mountains, in many places equal to the highest of the Swiss Alps. The most wonderful of these is that named Mount Erebus—a living volcano, more than fifteen thousand feet in height; and further notable from its close contiguity to the southern magnetic pole. Sir James Ross reached a point within one hundred and sixty miles of this pole; which was found by observation, three or four degrees further south than the position assigned to it on theory by Gauss. Had he been able to reach this spot, which local conditions rendered impossible, his would have been the singular glory of planting the British flag on each of the two magnetic poles of the earth!—a triumph almost too great for the life of one man.

The other expeditions, commanded by M. d'Urville and by Wilkes, did not succeed in reaching any such high southern latitudes, as those long before attained by Cook, Bellinghausen, and some of our South Sea whalers. They effected little in the way of discovery of land; certain imperfect delineations of coast by the American expedition, being afterwards annulled by the more complete and exact researches of the English navigat-

ors. Some public controversy grew out of this matter, upon which we are bound to say, that Sir James Ross' statements and observations are those alone which carry conviction to our minds. Meanwhile, the major question of an antarctic continent still remains unsettled, as regards its extent in longitude, and its depth in latitude towards the pole. For any further knowledge in this quarter we shall probably be indebted to the whalers in these seas. Sir James Ross repeatedly mentions the great number of whales on the edge of the antarctic icy barrier; and Australia, New Zealand, and the Falkland Isles now furnish points of departure and repair, which invite to the vigorous prosecution of this arduous and exciting occupation.

Pursuing our sketch of the progress of modern geography, we leave these "regions of thick-ribbed ice," and come at once to the more habitable parts of the earth; and to Europe, as holding the first place in all that pertains to the history of civilized man. Yet here, in fact, there is little to record. European geography, in the common sense of the term, is well known in every part; the voids which remain belonging chiefly to physical geography, or to those departments of natural science which hold such close relation to the physical configuration and aspects of the globe. Certain provinces, nominally belonging to Turkey, and lying between the ancient Macedonia and the Danube, form the portion of Europe least frequented by travellers, and still imperfectly described in maps. It must be further admitted, that the complete geographical exactness required for nautical and other purposes is yet wanting in several parts of the European coasts, and has only of late been thoroughly attained even in our own island. Twenty years ago, errors still existed in the longitudes of some points on the south coast of England; minute indeed in amount, but yet needing the correction they have since obtained. Exactness is the essence of modern science; and in this case, practical reasons strongly concur with what is demanded by theory. Such exactness has been admirably applied to the measurement of arcs of the meridian; of which, that completed by Russia a few years ago, stretching over more than  $25^{\circ}$  from the mouth of the Danube to the polar sea, is among the most perfect in execution.

Our subject takes a new and wider form, as we pass forward into Asia;—that vast tract of continent stretching over an area five times that of Europe;—the seat of the most ancient, populous, and powerful empires of the world;—and the source, at successive periods, of those great migrations which have given races, nations, and languages to every other part of the globe, America even included. With these matters of history and speculation, deeply interesting though they are, and closely bound up with the geography of Asia, we have no present concern. The progress and actual state of geographical discovery in these wide countries it is not easy to delineate. The gaps in what we know of them are at once vast and irregular. India, indeed, is the only part of the Asiatic continent which has yet been thoroughly surveyed; and we have already spoken of those conditions, physical and political, which assure the completeness of our future knowledge of this noble appendage to the British Crown. Two arcs of the meridian have already been measured in India;—the second (completed by Everest, and extending over sixteen degrees) one of the most perfect ever surveyed. The great range of the Himalayas—embracing points of elevation which exceed by a perpendicular mile any other known heights in the world—has been penetrated through in various places, and its southern declivities explored;—not indeed without peril and some loss of life to the adventurers, among the wild and bigoted Tartarian or Mongolian tribes inhabiting these Trans-Himalayan regions. We might name very many English travellers of the last thirty years, who have signalled themselves in this great field of research, and some of whom, as Cantley, Falconer, Hooker, and Thompson, have combined large discoveries in natural history with eminent services to geography. The latest, and not least successful explorers beyond the Himalayas, are three Germans, the Brothers Schlagintweit, who penetrated northwards as far as Khotaro; examining the courses of several rivers all flowing in that direction, but speedily lost to our knowledge in these wild and unfriendly regions, which seem even more difficult of approach than when Marco Polo traversed them six centuries ago. We lament to state, that one of these brothers, Adolphe, perished by the hands of

barbarous tribes in Turkistan—one more added to the number of martyrs in the cause of geographical discovery. The magnificent work recently announced by Messrs. Brockhaus of Leipzig, which is to impart to the world the results of Messrs. Schlagintweit's mission to High Asia, will consist of no less than nine quarto volumes of scientific text and an atlas of three folio volumes. If we may trust the promises of the prospectus, it will be one of the most splendid and complete publications of the age.

Russia comes next to England as a civilized possessor of Asiatic territory;—a tract forming one-third of all Asia in extent; but barely accessible in its coasts, harsh and untoward in its general climate, and in its northern half habitable only under the rudest and scantiest conditions of human life. The methodized activity of Russian administration is testified, however, throughout every part of this vast dominion. Not only in its newly acquired Caucasian provinces, but also throughout the endless wilds of Siberia, it maintains supremacy over both settled and nomad populations, by an organized machinery for all purposes of government; for colonization by free settlers or exiles; for overland traffic and the working of mines; and for the survey of the country by geographers and engineers. The protection and aids furnished to foreign travellers in Siberia may be set down to a prudent as well as generous policy. It is well known how many German naturalists—Pallas, Humboldt, Klaproth, Wrangel, and Ehrenberg, among the number—have aided, officially or otherwise, in Siberian explorations. The English travellers, fewer in number, and with less determinate objects of pursuit, cannot, with the exception of the latest of them, Mr. Atkinson, be said to have contributed much to the geography of this region. Sir G. Simpson, in the new and extraordinary circuit he made of the globe, traversing the Hudson's Bay territory from ocean to ocean, and the whole extent of the Russian empire from Kamtschatska to the Baltic, took one of those accustomed routes across Siberia, which connect together the sparsely scattered oases of human habitation in this country. The substantial progress made and still making in Siberian geography, is greatly due to the Imperial Geographical Society, which gives direction and aid to the labors of the scien-

tific travellers sent on these remote missions of discovery. The names of Orloff, Ussultzoff, Radde, Veniukoff, are already known by their successful researches, chiefly in the provinces to the east of Lake Baikal, in the valley of the Vittino and other tributaries of the Lena; and further to the south along the borders of Chinese Tartary, and among the rivers which flow into the Amúr. The latter river, ranking as one of the largest rivers in the world, though *beyond* the Russian frontier, has been officially surveyed in various parts of its course; and the extent and configuration of its vast basin approximately ascertained.\* We have a right to presume that other motives beyond geographical curiosity have prompted these particular researches. The Chinese have conceded to Russia the mouth of the Amúr; useless to themselves, but prospectively very important to Russian relations with the eastern Asiatic empires. By far the most important contribution to the history of these regions is to be found in Mr. Atkinson's second and recent publication on the Upper and Lower Amúr—a work which derives equal interest from his well-stored portfolio and from his pen; though we confess we should have read the narrative of this traveller with greater scientific confidence if his adventures had been somewhat less romantic and his love of the picturesque less strongly marked. It is impossible to overrate the importance of the Russian settlements on the Amúr to that empire, as, what the Germans call, a World-Power. Her navy is thus released from the land-locked seas which bound the Baltic and Black Sea coasts; and Russia finds herself in a commanding position in the northern seas of China and Japan at the very time when these territories are becoming more nearly connected with the rest of the world. This consideration gives a very high degree of interest to Mr. Atkinson's travels; though, as regards the Russian settlements on the Lower Amúr, his latest volume does not entirely redeem the promise held out by its title.

Of the northern portion of Siberia, bordering for some thousand miles on the Arctic Ocean—the country of the Samoyedes and

\* In the Journal of the Geographical Society for 1858, will be found the translation of a long and very valuable memoir on the Amúr, the result of this survey.



other half-starving tribes—we have little to say, since very little is known, beyond the course of the three mighty rivers, which traverse it in their passage from the central parts of the continent to the sea. The exit of these rivers is such in latitude that they could never minister to external commerce, even were the countries through which they flow more prolific of produce than they are likely to become. Baron Wrangel has been the intrepid explorer of these high northern latitudes in Siberia, and we owe to him most of what we know of them. His expedition over the ice from the mouth of the Lena towards Behring's Straits ranks as one of the most arduous feats in northern enterprise. We further obtain from him a confirmation of the facts before furnished by Pallas, Middendorf, and others of the enormous deposits of the tusks, bones, and even carcasses of elephants, on the banks and near the mouths of those great Siberian rivers, which enter the sea beyond the arctic circle;—a strange problem in natural history, and hardly yet solved, even by the ability which Sir C. Lyell has brought to bear upon it.

We have just spoken of Chinese Tartary, and this notice brings before us that vast central region of Asia, two-thirds of which is thus denominated—a vague name for a vague dominion. The other or western part of this region is as vaguely known under the name of Independent Tartary; the whole area stretching from the Caspian and Sea of Aral to the coasts opposite Japan, with a breadth in latitude of from twelve to twenty degrees—a space wellnigh doubling Europe in total extent. Scarcely can we give the name of geography to the scanty and broken knowledge we have of these countries. We may be said best to know them, though this also very obscurely, through the history of those successive swarms and races of people, which migrated thence as invaders or settlers of the more fertile and temperate regions of Southern Asia and Europe. No field of geographical discovery equal to this in extent and interest exists on the globe. Little more than the mere margin has yet been passed by the civilized travellers of our own day; but here again we must refer to our countryman, Mr. Atkinson, as one of the most intelligent and successful of these. His travels during several years, which were

undertaken for the express purpose of depicting the scenery of a continent hitherto so little known to civilized man, carried him through many unexplored parts of the Altai chain and Kirghiz deserts, forming the border line of Russian and Chinese empire. The Russian government is actively pursuing research in this direction; but it is still only a frontier to the enormous tract of almost unknown continent described above; and Central Asia yet remains a sort of mythical region to our knowledge. Even aided by the authority of Humboldt and Klaproth, we can hazard little more than conjecture as to its physical outlines and geography. Taking the Altai and Himalayan chains in their extreme prolongation, as forming its northern and southern boundary, we have as an intervening belt those vast Mongolian and Tartarian steppes, vaguely called in part the Desert of Gobi; elevated more than four thousand feet, and stretching, it is believed, fully four thousand miles from east to west. We have reason to suppose these steppes to be traversed or interrupted by other mountain ranges, parallel, we may presume, to the great border chains; and the journey of the brothers Schlagintweit indicated one such range of great elevation, which they believed to be identical with the Kuen-Luen chain of Humboldt. But we cannot go further here than to point out this part of Asia as a wide field for future adventure;—adventure sanctioned not solely by common curiosity, but by the certainty of finding, in its physical character and natural history, objects of high interest to science. The fauna and flora of a region so peculiar in position and surface, must needs afford much that is new and curious to the naturalist; while the ethnologist may perchance discover here some rudimental traces, serving to the better understanding of those vast migrations, by which the shepherds of the steppes of Central Asia have more than once shaken the world.

The geography of China Proper is becoming every day better known, through that strange medley of simultaneous war and commerce which for many years has been our normal relation to a people equally singular in their language and religion, as in all their institutions and usages of life. Yet this knowledge is still very much confined to the maritime provinces, and probably does not equal that acquired by the

Jesuits, during their early and successful missions to China. The journey accomplished by Huc and Baudot from Peking to Lassa, affords recent proof of what may be effected by that corporate zeal, which, while usurping the character of religion, has given such continuous vitality to the wonderful institutions of the Roman Catholic Church: but in this, as in some other instances, the zeal of the missionaries for the triumph of their faith, and perhaps the simplicity of their characters, detract considerably from the services they might have rendered to scientific investigation. Our former diplomatic missions to Peking, even though returning across the empire, have travelled under such close constraint as to make very slender additions to our knowledge of its vast interior. The more recent voyage of Lord Elgin up the Yang-tze-keang to Hankow, six hundred miles from the mouth of this great river, the *girdle* of China, forms a remarkable step in the progress of Chinese discovery. It is a stream doubtless destined hereafter, under the agency of steam, to become one of the great watery highways of the world. Population clusters in crowded cities along its banks, and cultivation is rich in its tributary valleys. It gives opening to that wide western portion of China, of which we know little save from native report; but which may hereafter, through this channel, enter largely into the traffic of nations. The establishment of a British factory at Han-kow, which would create a market to European trade in that part of the empire, and open the navigation of the Yan-tze-keang to our ships, is strenuously advocated by the naval officers who accompanied Lord Elgin in that expedition. What the events now in progress in the empire, from European force and native rebellion, may bring about, we hardly dare surmise, so often have all expectations been frustrated in this quarter. But half a century now is more prolific of change than any five centuries heretofore; and China, with all its immobility of ages, cannot escape that tide which is sweeping over and amalgamating, through commerce or conquest, all other nations of the earth.

Those portions of Asia which appertain to the Persian and Turkish Empires, though better known than the interior of China, yet present still great *lacunæ* in our knowl-

edge; and are nowhere laid down with the exactness which modern geography requires. The more perfect examination of these countries will have a further and higher interest in illustrating the history of the most ancient periods, and most remarkable races of mankind. It is a region where fable and reality come concurrently before us;—sometimes in conflict, sometimes in mutual illustration. The wonderful results of the labors of Rawlinson, Layard, and Botta in the ancient Assyria, and those more recently obtained by Mr. Graham in the Hauran, the scene of the deplorable events which have again drawn a French army to the coast of Syria, are the augury and index of what may be accomplished by further research. We still want the more ancient links which connect together the several branches of the Aryan and Semitic races, their languages and migrations; and it is in these regions of Asia, if anywhere, that we may look for such illustration. Spectral shadows of history, they must be at best; yet worth all that labor and enterprise can do for their recovery.

There yet remains a portion of Asia, almost equal to half of Europe in extent, but which, from position and physical characters, might better perhaps come under the African division of the globe. This is Arabia; separated from Africa only by that long and narrow cleft, which filled from the Indian Ocean, has borne from ancient time the name of the Red Sea. Along this extraordinary gulf continually pass those magnificent steamers which connect England by the shortest transit with her Indian Empire;—the electric telegraph has been laid underneath its waters;—the fortress of Aden, our Gibraltar of this sea, guards its narrow egress into the Indian Ocean;—the mountain group of Sinai, and the two cities which cradled the religion now dominant in the east, lie upon its Arabian shores. And yet the vast tract, forming the whole interior of Arabia, is completely a *terra incognita* to geography;—its physical aspects, its animal and vegetable products, its human population, all alike unknown to European eyes. Even the boldest map-makers have not gone beyond a narrow coast margin, with some imaginary mountain ranges, and a few vague lines of native travel from the Red Sea to the Persian Gulf. But inference comes here

in the place of observation. The absence of any great river estuaries on its coasts, the character of the adjoining countries, and the scanty notices obtained from native sources, all justify the belief that the interior of Arabia is a vast sandstone desert; with scattered oases like those of the Sahara, the vague domiciles of wandering Arab tribes, who feebly represent that extraordinary race, which in the seventh and eighth centuries, under the fervor of a new faith, conquered or shook some of the greatest empires of the world. That such events should have had their origin on the coasts of that desert region, is a fact which history records, but cannot easily explain.

From Arabia we pass by a short stop to Africa;—a continent abounding from the earliest time in geographical problems, several of which are even now only partially solved. The question as to its being circumnavigable or not; as to the sources of the Nile; the extent of the Great Desert; and the existence beyond of lofty mountains and a great river flowing eastwards,—these were points of speculation to ancient geographers, from the time of Herodotus to Ptolemy, Strabo, Seneca, and Pliny. We have no space to enter fully into these subjects, or into the Arabian researches in Africa several centuries later. We must limit ourselves to the notice of recent discoveries only; and even this more briefly than is due to their real and relative value. It is a continent we may well seek to know more intimately; not merely from curiosity or the contingent benefits it may afford to commerce and manufacture, but for the better prevention of the curse of slavery which has long hung heavily over this part of the world. Looking to extent only, it forms pretty nearly a fifth part of the total land of the globe. On a rude estimate we may say that one third of this vast area is wholly unknown; another third so scantily known, as to furnish little more to maps than the single lines of travellers or caravans. The portions thus described form the great interior of the African continent. Its coasts are in every part more familiar to us;—a knowledge dearly purchased by that cruel and disgraceful traffic to which we have just alluded. But the best general notion of African geography may be gained by taking successive

zones of latitude from north to south; wh division, suggested by diversities of physical aspect, as well as by the direction of recent discovery, we shall here adopt.

The northern zone, bordering on the Mediterranean, from Morocco to Egypt, is that best known to us. Algeria, to the distance of more than three hundred miles inland, and including the several ranges of what are called the Atlas Mountains, has been thoroughly surveyed by its French possessors; while Egypt and the valley of the Nile are becoming as familiar to us as the courses of the Rhone and the Danube. Morocco, Tunis, and Tripoli are less perfectly known as they recede from the coast; but their proximity to Europe makes it certain that these countries will eventually be opened, either by conquest or commerce. South of this coast zone comes that of the Sahara; a name vaguely applied to the greatest desert of the globe; stretching its high and sandy plateau from the Atlantic to the confines of Egypt and Nubia; with an average breadth, ill defined indeed, of at least eight hundred miles. Various lines of travel and traffic traverse this wilderness, determined chiefly by the oases scattered over its surface; some of these large enough to give abode to wild tribes of the Touarik and Tibboo races; others mere patches of vegetation around the springs which here and there well upwards from the arid surface. The most extensive exploration of the Sahara which has yet been made is due to Colonel Daumas of the French staff in Algeria, and M. Carette, whose reports were reviewed in this journal some years ago.\* The first modern travellers who crossed the Sahara from Tripoli to its southern border were Denham and Clapperton, in 1822; followed, after the intervention of other less successful efforts, by the expedition, familiar to our readers, of which Dr. Barth alone survived to relate the history. The names of his companions are added to the record of the many martyrs of African discovery, who have succumbed under the malign influences of climate, privation, or the fanatic cruelty of the native tribes.

Dr. Barth's volumes, though somewhat arid in style, like the country they describe, give a faithful picture of the physical aspect

\* Ed. Rev., No. clxix., July, 1846.

to recognize masked operations of mind. Surely, we see every day examples of cerebral acts being performed of which the individual is afterwards totally oblivious. Let us instance, for example, the mental impressions engraved with a searing iron, as it were, upon the brain in the moments of delirium. Under chloroform, again, the mind is often in a state of great exaltation, and goes through mental labor of a kind calculated, one would imagine, to leave lasting traces behind it on the memory; nevertheless water does not more readily give up impressions made upon it than does the tablet of the brain under this influence. Even in dreams, of which we take no note, but which are patent to bystanders by our speech and actions, there must be plenty of "unconscious cerebration." Indeed, Sir Henry Holland, in referring to a vague feeling that all of us at times have experienced when engaged in any particular act, that "we have gone through it all before," endeavors to explain it by supposing that the faint shadow of a dream has suddenly and for the first time come to our recollection in a form so unusual that it seems as though we had acted the part before in another world. That we go through brain work unconsciously we have therefore no doubt; and we see no reason why we should deny the existence of a power seated in the brain, whose duty it is silently to sift the grain from the husk in the immense mass of mental pabulum supplied to it by the senses.

There can be found no more curious chapter in the history of the human body and mind than that which relates to the phenomenon of morbid attention directed to its different organs. The power of influencing any particular portion of the animal economy by the concentration of our attention upon it, is so marvellous that we wonder the method of its action has not been more thoroughly investigated than it appears to have been. It would seem as though the mind possessed the power of modifying the functions of distant parts of the body, and of exciting sensations quite independently of any act of volition. The mere act of attention to any particular organ over which we possess no muscular control is sufficient to produce some alteration of its functions. Thus we may will that a spot in the skin shall itch, and it will itch, if we can only

localize our attention upon the point sufficiently; by directing our thoughts to the heart it rapidly beats; by soliciting the lower intestine it is quickly brought into action. There is scarcely an organ of the body which is not liable to be interfered with by simply concentrating the attention upon it. Whole regions of superficial nerves, such as those of the skin in the neck, may be exalted in their action to the highest degree by the mere expectation of being tickled there. This nervous attention may become so persistent as to cause actual disease. We have a familiar instance in dyspepsia, where the patient is forever thinking of his stomach, and at last diseased function degenerates into diseased organization, and he falls into the condition of a helpless hypochondriac. But if an attitude of concentrated attention upon his mere animal functions is thus capable of producing disease in them, what effect has it upon the mind itself? Sir Henry Holland has remarked that it appears to be a condition of our wonderful existence that while we can safely use our faculties in exploring every part of outward nature, that we cannot sustain those powers when directed inward to the source and centre of their operations—in other words, the mind, when it persists for any length of time in analyzing itself, scorpion-like, stings and destroys its own action. That we can as readily injure our brains as our stomachs by pertinaciously directing our attention to fancied diseases in them cannot be doubted, and that mere perversion of ordinary modes of thought, such as may exist in minds only functionally disordered, may be fixed by the action of morbid attention so as to constitute permanent aberration, is equally certain. Hence as Dr. Winslow says, "the extreme danger of not exercising like trustworthy sentinels a watchful supervision and active controlling influence over every thought, and the evil that arises from not keeping in a state of strict subordination the mental emotions. The fearful mischief from neglecting by resolute mental efforts to battle with the erratic suggestions of an unduly excited and flighty imagination, to keep in abeyance and even to strangle in their birth unhealthy impressions struggling to fix and engraft themselves upon the easily moulded, plastic, and yielding fancy, cannot be overestimated or exaggerated." And let it not

be supposed that this is needless advice, or that it is a rare thing to find reason struggling manfully with the promptings of insanity. Bishop Butler tells us that he was all his life struggling against devilish suggestions, and nothing but the sternest watchfulness enabled him to beat down thoughts that otherwise would have maddened him. His case was but an example of that of thousands of persons with whom we come in contact every day, who under a calm exterior conceal conflicts between the reason and the first promptings of insanity of the most terrible kind.

It is not within the province of this article to enter into the professional treatment necessary to combat the various forms of cerebral mischief so graphically detailed in Dr. Winslow's volume, which to the general

reader is as interesting as a romance, whilst to the psychologist it is fraught with the deepest interest, not only as a storehouse of fact bearing upon brain disorganization, but also as a philosophical exposition of the fine and graduated links which connect healthy and disordered minds. But it will be at least consolatory to those who view with alarm the symptoms of increased cerebral disorders in the community, that the means of grappling the evil are not wanting. "I am satisfied," says the author, "that it is in our power to arrest the progress of the fatal cerebral disorganization that so often follows, after the lapse of years, injuries to the head, if we do not sleep at our posts, and are on the look-out for the first scintillations of brain disorders, for, as Dr. Grieves has sagaciously said, 'It is not enough to treat them when they come, THEY MUST BE SEEN AND MET COMING.'"

#### LYCEUM LECTURERS.

Alger, the Rev. Wm. R., Boston, Mass.  
 Balch, the Rev. William S., Ludlow, Vt.  
 Bartlett, the Rev. Alvin, Brooklyn, N. Y.  
 Beecher, the Rev. Henry Ward, Brooklyn, N. Y.  
 Beecher, the Rev. Thomas K., Elmira, N. Y.  
 Bellows, the Rev. Henry W., D.D., New York.  
 Benjamin, Park, New York.  
 Blackwell, the Rev. Antoinette L. Brown, New York.  
 Boutwell, the Hon. George S., Groton, Mass.  
 Bradburn, the Rev. George, Althol, Mass.  
 Burleigh, William H., New York.  
 Buchanan, Dr. J. R. Cincinnati, Ohio.  
 Burlingham, the Rev. J. H., New York City.  
 Chapin, the Rev. E. H., New York.  
 Coggeshall, W. T., Cincinnati, Ohio.  
 Cox, the Rev. S. Hanson, D.D., Attica, Wyoming Co., N. Y.  
 Culver, E. D., Brooklyn, N. Y.  
 Curtis, George William, New York.  
 Cutler, E. J., New York.  
 Cutting, the Rev. S. C., Rochester, N. Y.  
 Dall, Mrs. C. H., Boston, Mass.  
 Davidson, the Rev. Dr., New York.  
 Dewey, the Rev. Orville, Boston, Mass.  
 Douglas, Frederick, Rochester, New York.  
 Elder, Dr. William, Philadelphia, Pa.  
 Emerson, Ralph Waldo, Concord, Mass.  
 Fletcher, the Rev. J. C., Newburyport, Mass.  
 Fowler, Prof. John W., Poughkeepsie, N. Y.  
 Frothingham, the Rev. O. B., New York.  
 Giles, the Rev. Henry, Milton, Mass.  
 Giddings, the Hon. Joshua R., Jefferson, Ohio.  
 Godwin, Parke, New York.  
 Hale, John P., Dover, N. H.  
 Hayne, Paul H., Charleston, S. C.  
 Hedge, the Rev. F. H., D.D., Brookline, Mass.  
 Henry, the Rev. C. S., D.D., Poughkeepsie N. Y.

Higginson, the Rev. Thomas W., Worcester, Mass.  
 Hitchcock, Prof. Edward, Amherst, Mass.  
 Holland, Dr. J. G., Springfield, Mass.  
 Hopkins, the Rt. Rev. Bishop John H., Burlington, Vt.  
 Hosmer, Wm. H. C., Caledonia, Livingston, Co., N. Y.  
 Lippincott, Mrs. Sarah J., Philadelphia.  
 Lord, the Rev. John, Stamford, Conn.  
 Mayo, the Rev. A. D., Albany, N. Y.  
 May, the Rev. Samuel J., Syracuse, N. Y.  
 Neal, John, Portland, Me.  
 Osgood, the Rev. Samuel S., New York.  
 Pierpont, the Rev. John, Medford, Mass.  
 Phillips, Wendell, Boston, Mass.  
 Quincy, Josiah, Jr., Boston.  
 Richardson, A. D., No. 15 Cornhill, Boston, Mass.  
 Saxe, John G., Burlington, Vt.  
 Simms, W. Gilmore, L.L.D., Charleston, S. C.  
 Smith, Elizabeth Oakes, New York.  
 Solger, Dr. R., Boston, Mass.  
 Spaulding, the Rev. A. F., Boston, Mass.  
 Stanton, Elizabeth Cady, Seneca Falls, N. Y.  
 Stone, the Rev. A. L., Boston, Mass.  
 Stark, William, Manchester, N. H.  
 Sumner, George, Boston, Mass.  
 Taylor, Bayard, Kennett Square, Penn.  
 Thompson, the Hon. John, Poughkeepsie, N. Y.  
 Thompson, the Rev. Joseph P., D.D., New York.  
 Thomson, J. R., Richmond, Va.  
 Thomson, Mortimer, New York.  
 Thoreau, Henry D., Concord, Mass.  
 Todd, the Rev. John, D.D., Pittsfield, Mass.  
 Upham, Prof. W. S., No. 100 Forty-seventh Street, New York.  
 Vinton, the Rev. Francis, D.D., New York.  
 Whipple, Edwin P., Boston, Mass.  
 Youmans, Edward L., Saratoga Springs, N. Y.  
 —Tribune.



From The Saturday Review, 13 Oct.  
ITALY.

THE battle of the 1st of October proved the military skill of Garibaldi, the courage of his North Italian veterans, and the insufficiency of his resources for accomplishing the task which he seemed to have nearly accomplished. But for the interference of Sardinia, the king of Naples would at this moment occupy a more favorable position than his daring adversary. If the well-conceived movement across the Volturno had succeeded, the royal troops would probably have re-entered Naples amid the applause of the worthless rabble which at present shouts in the train of Garibaldi. One or two additional reverses might have forced the liberating general back across the Straits, where a passage for a Neapolitan army is still kept open by the guns of Messina. If Francis II. had once more occupied his capital, Count Cavour's ingenuity would have been taxed to devise a plausible pretext for invasion, and even under present circumstances the Sardinian intervention constitutes a singular anomaly in international law. The awkwardness of an unprovoked attack on a sovereign who still holds a part of his dominions more than counterbalances the advantage of convincing Garibaldi that he stands in need of assistance. The question is still further complicated by the appeal to universal suffrage, which has been announced against the wish of all Italian patriots, probably under the suspicious dictation of France; for it is by no means certain that the numerical majority of Neapolitans desires the annexation which the educated and respectable classes are wisely endeavoring to carry out. Italian unity will be commenced under evil auspices if it is found necessary to repeat the intrigues and frauds which were perpetrated at Nice, and a dangerous precedent will be established when the peasantry and the mob are consulted on the choice between a new claimant of the crown and a government not yet overthrown. In Naples and in Sicily, a Parliamentary Constitution which has never been legally abrogated would have furnished a recognized and legitimate machinery for the national adhesion to the Italian monarchy; nor can it be doubted that Count Cavour, as a prudent statesman, would have preferred a secure and regular method of attaining his object. He may probably have sufficient reasons for deferring to the counsels of his imperious ally, but it is unfortunate that he should be compelled to adopt the rude contrivance which sanctioned despotism in 1851, and territorial spoliation in 1860.

If due allowance is made for the inevitable difficulties of the situation, the ministerial

statements which have been addressed to the Sardinian Parliament may be considered as singularly able and judicious. It was necessary to reconcile the national feeling to the abandonment or postponement of designs against Rome and Venice, and it would have been invidious to confess that in either case the objection to the enterprise consisted in its impracticability and danger. Accordingly, Count Cavour apologizes for the maintenance of the truce with Austria by a justifiable reference to the wishes of Europe, and he declares that an attack upon Rome would be a proof of ingratitude rather than of insane temerity. It is true that the French occupation of Rome is an act of lawless violence, more insulting to Italian feeling than the Austrian possession of Venetia; but an intelligent audience willingly dispenses with the communication of patent and unseasonable truths. The Parliament of Turin can entertain no doubt that, if the undertaking were feasible, Victor Emmanuel would sweep the peninsula clear of every foreign soldier, without regard either to conventional obligations of gratitude or to diplomatic remonstrances. It was sufficient for the minister to show that the hasty menaces of Garibaldi might be repudiated, under the presence of necessity, on tolerably decorous pretexts. The vast schemes of aggrandizement which he proposes furnish a still more satisfactory excuse for his abstinence from hopeless projects of ambition.

Since the days of the French Convention, no elected Assembly has ever been invited to vote on so daring a proposal as the annexation of a territory as large and as populous as its own. Some color of law is useful in carrying out the most exceptional measures; and whatever objections may be raised by international jurists, the requisitions of municipal legality are satisfied by the parliamentary authority which has been conceded to the king. As far as his North Italian subjects are concerned, Victor Emmanuel is entitled to accept the sovereignty of Naples and of Sicily, and a further object of profound policy was secured by the limitations which the minister attached to the vote which he demanded. It was almost as important to exclude opportunities of negotiation as to secure for the policy of simple annexation an approval which could not be doubtful. Any provisional government which may exist in the South will find it impossible to discuss the conditions of its resignation. The farce of universal suffrage must be more or less speedily performed, and then the country must accept the Piedmontese dynasty and Constitution without any reserve of provincial independence. If Garibaldi's advisers should induce him to

stipulate for future hostilities against Rome or Venice, the king's Cabinet will reply that Parliament has not delegated to the Crown any power of binding its own future discretion. In place of local privileges, Naples and Sicily will obtain a proportionate share in the national representation, and in the Italian Parliament zealous patriots may at their pleasure bring forward proposals for the completion of the great national enterprise. Notwithstanding the ominous rumors which have been current within the last few days, it is still not impossible that, under the compulsion of internal difficulties, Austria may hereafter be willing to retire from Italy. Count Cavour is perhaps justified in the belief that, even in Germany, opinion will at no distant day favor the liberation of Venice, and in the mean while it is certainly "untrue that the Venetians are peacefully submitting to their destiny." With regard to Rome, the Sardinian minister justly relies on the growing conviction that liberty is not necessarily antagonistic to religion; and a future pope may perhaps think it unadvisable any longer to present himself to his countrymen in the character of a public enemy. The policy of France is inscrutable, and perhaps still undecided; nor is it easy to understand why the army of occupation should be doubled in the absence of all appearance of danger. It seems, however, to be generally believed that the Emperor Napoleon wishes to relegate the pope to some post in which he may more conveniently serve as an instrument of French ambition. The recent Allocution referred in terms of reproach to the broken promises of an august protector, and the staff of old women who are brawling and cursing under papal inspiration in all corners of Europe at present direct a large portion of their shrill imprecations against the imperial apostate. Pious Archbishop Cullen instructs his priests to pray for the defeat of the diplomacy of France as well as of England, and if any transfer of the holy see to Jerusalem has been ventilated, the suggestion must have proceeded rather from M. Thouvenel than from Lord John Russell. A pope who would adopt Italian sentiments would be valued and pampered by his countrymen for the same reasons which induced the patriots of Ephesus to applaud their great goddess Diana. Even in the absence of temporal sovereignty, the Vatican would be a more comfortable residence than the governor's palace at Jerusalem.

The advantage of parliamentary institutions has been once more illustrated by the recent debates at Turin. The demagogues who have attempted to mislead Garibaldi have been forced to defend or to disavow in

public the policy which, as long as it was confined to private suggestions and intrigues, might have justified general alarm. Some members of the extreme Opposition have been compelled to express a preference for federal union, while Bertani himself has professed unabated attachment to the person and dynasty of the king. Scarcely a voice was raised in favor of the mad project of a simultaneous attack on the forces of France and of Austria. Even the members who withheld their confidence from the government involuntarily sanctioned a large portion of the ministerial policy. The independence of a nation is more important than its internal organization; but it must not be forgotten that Italy is on the eve of obtaining political freedom as well as unity. Much remains to be done before the spirit of liberty is introduced into the administration and the habits of the people. Official supervision and interference are still almost as common in Piedmont as in France, and the revolutionary or Bonapartist invention of passports hampers locomotion in all parts of the continent. Yet the foundation and chief security of freedom consists in the control of a Parliament over policy as well as over finance and legislation. Through its chosen representatives, Italy will become every day more conscious of its unity, and the national sympathy will double the energies of the extended monarchy. A sanguine politician might indulge in the hope that, in the lapse of a few years, France may be the only refuge of despotism on the west of the Vistula.

From The Saturday Review, 13 Oct.

#### FRENCH INTRIGUE.

THE sovereigns who are going to meet at Warsaw will have many very unpleasant subjects to talk over, and one of the most unpleasant and most interesting will be a subject on which they cannot utter any opinion to the world. Ostensibly, their meeting will probably end in formal lamentations over the turn things are taking in Italy, and in a solemn but vague denunciation of revolutionary doctrines. But really neither Italy nor the gospel of revolution will be uppermost in their minds. It is perfectly understood throughout Europe, and nowhere better than at the Tuileries, that the chief object of this Warsaw meeting is to organize a combination of forces sufficient to avert the dangers with which French intrigue is threatening the allied sovereigns. Austria fears for Hungary, and Russia and Prussia fear for Poland. It is notorious that, both in Hungary and in Poland, a party, the exact magnitude of which is probably unknown even to the secret police, reckons on the co-opera-

tion of France in case of an outbreak, and that this belief is encouraged, if not inspired, by the French government. But it is not only in the dominions of the sovereigns who now propose to combine that French intrigue is showing itself. In every part of Europe some scheme is on foot, which may possibly be worked out hereafter, and which, even in its faint beginnings, has the effect of keeping France prominent, and making the neighbors of France uncomfortable. It has often been said that Louis Napoleon was born a conspirator. He likes intrigue for its own sake, even if it comes to nothing: and probably no reputation is so dear to him as that of being a deep, dark man. He has the satisfaction of knowing that he has now fairly won this reputation, and that French diplomacy is popularly considered one vast web of intrigue. But it is worth while remarking that French intrigue has two characters which, though shaded off into each other, are still separable: and the distinction between them throws great light on the Warsaw meeting.

When Louis Napoleon had gained all the advantages from the Crimean war which he could reasonably hope to get—when he had obtained by his intimate alliance with England a condonation for his past career, and had instilled a conviction into the army that while he was on the throne there would be no lack of the delights of war—he turned round and made a merit with Russia of having compelled England to discontinue the war. When he wished for another war, he first made a secret compact for an accession of territory from his ally, and then, if Mr. Kinglake's story is true, offered to place his ally at the mercy of his enemy. He takes every opportunity to get a footing wherever a footing can do him any good. The dangers of the pope compel him to occupy the capital of Italy with an overwhelming force—the dangers of the Syrian Christians compel him to send troops to a country so placed as to command Egypt and the route to India. Probably he has no single definite purpose in schemes like these; but he foresees several ends which they might be made to promote, and meantime, they will keep up his prestige. It may be very useful to him that the head of his Church should be his prisoner, and it may be very useful that the independence of the future kingdom of Italy should be checked by strong French positions in its centre. In the same way it may answer, if Syria becomes a French province, to carry out a favorite plan of some of the emperor's adherents, and establish the pope at Jerusalem. The very circumstances, also, of the position in which he has chosen to place himself compel him to use a certain amount of that

kind of deceit which deceives nobody. He plans at Chambéry the Piedmontese conquest of the Marches and Naples, and then, when the first steps are taken to carry the plan into execution, he withdraws his representative from Turin. But in all intrigues of this kind he is only acting as restless, unscrupulous sovereigns have acted from time immemorial. It is among the oldest resources of statecraft to dupe an ally, to keep a hold on a friend, and try to frighten the world by an endless succession of surprises. When once a sovereign has shown that he is inclined to employ these resources, neighboring states have nothing more to do than to abstain from trusting him, and to be ready to fight when his intrigues involve them in any serious peril.

But there is also another phase of French intrigue which is much more like the intrigue of a conspirator. In every country there are some persons who, if not exactly disaffected, wish vaguely for a change, and like the importance of being in communication with a great foreign power. In the states of the sovereigns who are to meet at Warsaw there is a large party who would revolt if revolution seemed to promise a tolerable chance of success. Louis Napoleon is engaged in ceaseless intrigues with the party, of whatever kind it may be, that is opposed to the government of other sovereigns. He keeps before some set of people or other that they would in some way gain if a change took place in the condition of the country to which they belong. And he teaches them to associate the idea of French help with the hope of this profitable change. The means by which he works, and the ends he proposes to himself, are as different as possible. Sometimes he uses royal pretenders, sometimes he stirs up the democracy, sometimes he appeals to the selfishness of traders, or holds out the bribe of future office before needy adventurers. The French government took a more than friendly interest in the Ortega plot in Spain. It encourages, through the Hungarian exiles in Paris, the revolutionary party in Hungary. It whispers hopes to the Poles. In Rhenish Prussia, and, as it is now said, in the island of Sardinia, it has emissaries explaining, as its emissaries explained to the Savoyards, how very great the advantages are of being French. This intrigue differs from the other kind of intrigue in being so much more indirect and intangible. It has no beginning or ending, no acknowledged source, no responsible head. When the emperor courts Russia, or arranges with Victor Emmanuel the price of a campaign, or sends his vanguard into Syria, he acts in a way which, however reprehensible, is at least within the recognized

limits of a sovereign's power. Europe can appeal to him, and judge him. He is responsible, and he accepts the responsibility. But no one can call him to account for the underhand arts with which he conspires against his neighbors. He does not connect himself directly with the machinery that he keeps at work. Intrigue of this kind brings with it a peculiar danger for those against whom it is directed. It not only keeps up the disaffection and confusion which it is intended to promote indirectly, but it sets on foot a vast mass of conspiracy with which it is unconnected. Those who seek for a change set intrigues on foot, on the speculation that the great intriguing power will help them when the pinch comes. Very often there is much delusion in this, and the power in whom they trust may see clearly that it could not help them if it would, and may be perfectly resolved never to spend a sou to save them from the gallows or the sword. But the mischief is nevertheless done. The disaffection is spread far beyond the control of those who first set it going; and the revolutionary party affects, and perhaps learns, to believe, that it has always half a million of bayonets at its disposal when it pleases to call for them. This is the danger which the combination of the three great states represented at Warsaw is intended to avert. The sovereigns wish to make it clear to their subjects that France is not likely to help them. Even the most enthusiastic Pole or Hungarian can scarcely believe that France will voluntarily attack so formidable a coalition in order to set Poland or Hungary free. This we believe to be the chief object of the Warsaw meeting, and it is an attainable and a legitimate object. But every precaution must be taken to assure the world that it is only against French intrigue that the coalition is directed. We need not say how irreparable a mistake it would be if the sovereigns went further than this, and entertained for a moment any project of intervening in the territories of each other.

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From The Saturday Review, 13 Oct.  
THE PRINCE OF WALES IN THE UNITED STATES.

ENGLISHMEN should be able to estimate neither at more nor at less than its proper value the hospitable enthusiasm which has greeted the Prince of Wales in the United States. Nothing delights the bulk of our own countrymen like an opportunity for a burst of sentiment; and, if there be one feeling more than another to which they are charmed to give expression, it is the pleasure of informing a former enemy or rival that by-gones are by-gones, and that they bear no malice. The

crowds which followed Marshal-Soult at the queen's coronation, and the shouting multitude through which the emperor of the French passed to the Guildhall, were thinking of the Peninsula and Waterloo; and there was a curious proof of the universal readiness to give way to such emotions in the story of the Edinburgh mob which assembled the other day to cheer that sweetest of princes, Napoleon Jerome, when he landed from his yacht at Leith. The chief sustaining influence which prevents the sentimentality of the British people from occasionally sinking into absurdity is the comparative quietude, the critical scepticism, and the "light irony" of the upper classes—characteristics which excite unspeakable indignation in English writers of a certain sort. The United States are England without its upper classes, and hence there is nothing to moderate the enthusiasm of an American mob, or to prevent its defeating its own object by exaggeration and extravagance. The multitude which crushes round the Prince is not denser or more wildly demonstrative than that which enveloped Jenny Lind; nor can we be sure that some day a contrary current of emotion will not wash back the grains of the sandbank very nearly in an opposite direction. But, at the same time, it would be a great mistake to suppose that the hearty welcome given to the heir of the British throne has no importance at all, though it may not have all the significance which a hasty observer might attribute to it. No American who has joined in this demonstration will be quite unaffected by it. To the end of his days he will be sorry if the amiable Prince whom he has greeted turns out a bad or weak sovereign. For the rest of his life he will be a little less liable to be caught by the anti-British commonplaces which pass current in America; he will be less ready to believe in the natural antipathy of the two branches which have parted from one great stock; and he will be a trifle more doubtful of the hideous designs which his political leaders lay from time to time at the door of Great Britain.

The Prince of Wales will certainly see some wonderful things in the United States, and it is much to be wished that he or those who are with him may have an opportunity of declaring how wonderful they think them. Chicago and New York are, each in its way, most astonishing cities, and a man must be very unimpressible not to marvel in America at the ease and rapidity with which the resources of modern society, wielded by an energetic race, have achieved the conquest of material nature. Scarcely less admirable are the refinement, which is considerably, and the comfort, knowledge, and intelligence which are extensively, diffused among



a people which has so short a history. If the Prince of Wales, speaking as a sort of representative of the British nation, could state publicly that he appreciates all this, he would do infinitely more good than most persons would believe likely to flow from so natural an avowal. For the soreness of Americans towards England arises in very great measure from the suspicion, in some cases not altogether unjust, that we do not give them proper credit for what they are and for what they have done. They have a "peculiar institution" of their own, which makes them singularly sensitive on such points. Once a year they meet together in solemn state for the express purpose of praising themselves. In a natural and healthy condition of things a good deal of the eulogy developed would diffuse itself among foreign nations; but Americans are not satisfied with the quantity taken off their hands, and are therefore driven to re-absorb much of it themselves—a process which causes painful irritation. If they could only be persuaded that we do our best to relieve them, and that we do spare them as much of our interest as can be diverted from those movements of the European system which to us are vitally important, they would be a vast deal less eager to convince themselves that they have more sympathetic friends or more cordial allies in the French, or the Russians, or the Japanese, than in a nation which is flesh of their flesh. It is not, indeed, probable that the Prince of Wales will be able to make all the concessions which Americans sometimes seem inclined to demand as the condition of their friendship. It would scarcely be decent in the great-grandson of George III. to express admiration for the virtues of Washington and Franklin; nor is he likely to volunteer the confession that the eternal admiration of the world was merited, if not won, by the great battle at Bloody Tomahawk Lick, or by the defeat of H.M.S. *Midge* at the hands of the U. S. Frigate *Snapping Turtle*. But such admissions as can fairly be expected from the descendant of the king whose misdeeds are recited with rhetorical fervor in the Declaration of Independence, we trust he will find an opportunity of making as handsomely and as publicly as possible.

It is satisfactory to reflect that, if the Americans forgive George III. in the person of the Prince of Wales, they will have forgiven every thing. No man of sense or information now believes that the quarrel with the colonies would have proceeded to any dangerous length but for the obstinacy of the monarch. His people, it is true, gave him a languid support, for they knew that they had been put to great expense for the

defence of the plantations, and they suspected, not quite without reason, that the refusal of the Colonial Assemblies to be taxed without their own consent was in the main an excuse for paying nothing. But the people, little zealous in the matter at most, did not then govern the country; and the class which had till then governed it—the older titled aristocracy—was distinctly opposed to the war. The power exceptionally enjoyed at that time by George III. of indulging his own perverse crotchets was derived, first, from his determination to use his immense patronage for his own purposes, instead of delegating it to ministers, like the first two sovereigns of his race, and next from the almost simultaneous return of the English Jacobite gentry into the field of politics. It has been little noticed by historians that, just when the American War began, the Jacobites had finally lost interest in the House of Stuart, which was now sure to be extinguished. Both in the country and in the House of Commons they rallied to George III., and it was their unquestioning and unreasoning support which, combined with the purchased votes of the placemen, gave its strength to the new and fatally influential "Court Party." All through the struggle, the colonial revolters were regarded by the English public as in alliance with the Opposition; and though the aspect of the contest was, of course, somewhat changed by the interposition of France, nothing has ever induced Englishmen to look upon it as a national strife. It is this which is at the bottom of that supposed underrating of the American successes which Americans constantly attribute to British jealousy. Why do you not frankly admit you were beaten? they angrily ask. The truth is, we have much less perfectly learned than the Americans to look upon ourselves as a nation foreign to our former fellow-subjects. The American successes produce on us the effect, not of Fontenoy, but of Marston Moor and Naseby; and if an Englishman who suffers himself to be annoyed by the narrative of the colonial victories is ever at the pains to analyze his feeling, he finds that what irritates him is the sense, not of a national, but of a party, defeat—the triumph, not of a hostile people, but of an adverse principle. Bannockburn is, in fact, a much more humiliating recollection to most of us than the whole American war. It is to be feared that American society, adulterated as it now is with Irish and German ingredients, has much more forgotten the brotherhood of race than we have, but the cordiality shown to the Prince proves that it has not quite fallen into oblivion.



From The Edinburgh Review.

1. *Transactions of the Royal Geographical Society for 1857, 1858, 1859.*
2. *Oriental and Western Siberia: A Narrative of Seven Years' Explorations and Adventures in Siberia, Mongolia, the Kirghis Steppes, Chinese Tartary, and Part of Central Asia.* By THOMAS WITLAM ATKINSON. London: 1858.
3. *Travels in the Regions of the Upper and Lower Amoor and the Russian Acquisitions on the Confines of India and China.* By T. W. ATKINSON. London: 1860.
4. *The Lake Regions of Central Africa. A Picture of Exploration.* By RICHARD F. BURTON, Fellow and Gold Medallist of the R. G. Society. 2 vols. London: 1860.
5. *Travels, Researches, and Missionary Labors during an Eighteen Years' Residence in Eastern Africa.* By the Rev. Dr. J. LEWIS KRAFF. With an Appendix by E. G. RAVENSTEIN, F.R.G.S. London: 1860.
6. *Travels and Scientific Explorations in Central Africa, during the years 1853 to 1857;* By Dr. EDWARD VOGEL, M.R.A.R.G.S.L., etc., etc. *With a brief Memoir of his Life to his reputed Death by order of the Sultan of Wadai; and a Sketch of the Geography of Central Africa.* By E. G. RAVENSTEIN, M.R.G.S.
7. *The Sources of the Nile: being a General Survey of the Basin of that River and of its Head Streams, with the History of Nilotic Discovery.* By CHARLES T. BEKE. London: 1860.
8. *The Colony of Natal.* By ROBERT JAMES MANN, M.D., Superintendent of Education in Natal. London: 1860.
9. *Seven Years' Residence in the Great Deserts of North America.* By the Abbé EM. DOMENECH. 2 vols. London: 1860.
10. *Narrative of an Expedition through the Southern Portion of Rupert's Land, from Lake Superior to near the foot of the Rocky Mountains, including the Region traversed by the Overland Route from Canada to British Columbia; with a Description of the Physical Geography, Geology, and Climate of the Country.* By HENRY YOULE HIND, M.A., Professor of Chemistry and Geology in Trinity College, Toronto; in Charge of the Canadian Assiniboine and Saskatchewan Exploring Expedition. With Maps of the Country explored, Geographical and Geological; and numerous Illustrations of Scenery, etc. London: 1860.

THE Royal Geographical Society, though comparatively of recent date, has already taken high rank among the scientific institutions of this country, and well merits that place by the energy and success with which it has pursued the objects contemplated in its original design. Every year has enlarged the sphere of action of this society, and given it closer connection with those various enterprises of research which, whether aided by government or not, are the offspring of English spirit and character; and belong fitly to a people filling all land and sea with their commerce, and holding possessions in every part of the globe. The Geographical Society has recently done much to direct and methodize, as well as to encourage, these researches. In pointing out the objects to be fulfilled, it expedites their attainment; and by giving earlier and wider publicity to the results, adds a powerful incentive to the ardor of discovery. While tracing the rivers, and traversing the deserts, of Central Africa; wintering amidst polar ice; or seeking ingress to the unknown interior of Australia, the traveller feels that all he does is reported and watched over with interest in England: and that touching word of *home*—almost peculiar in this sense to the English vocabulary—is more continually present to his thought, the end and the reward of the labors he has undergone.

The later volumes of the transactions of the society, admirably edited by Dr. Norton Shaw, attest all we have said in its commendation. They show further the growing connection of geography with other branches of physical knowledge, and very especially with geology;—sister sciences they may well be called, from the many relations linking them together. Several of our most eminent naturalists have a common interest in the geographical and geological societies, and have discharged with equal zeal the offices of both. One duty in common has been the delivery by the president of an annual address, relating at large the progress of the science during the year. These discourses form a very valuable part of the volumes of the Geographical Society now before us. The summary of what has been done tells more distinctly what there is yet to do, and gives guidance and incentive to it. Such collections of facts, moreover, furnished by different observers, and drawn from every

part of the earth, bring us nearer to those general conclusions, the object and end of all science. It is the better definition of this object which forms the characteristic of modern research, and contributes so greatly to its success.

Following in the train of these annual addresses, and, where needful, availing ourselves of them, we shall seek in the following pages to put before our readers the actual state of geographical knowledge; under a certain limitation, however, rendered necessary, as we shall speedily see, from the vast range now given to this field of research by those who have labored in it with highest zeal and success. And here we must pause for a moment, reminded by this very expression that we have lost within the last year two men who stood foremost among the number of scientific geographers. Baron Humboldt may almost be called the father of physical geography, since to his personal researches and various writings it is mainly indebted for the place it now holds among the sciences. The career of Carl Ritter was of a more recluse kind, and less lofty in its scope. But his great work on geography will ever remain a monument of persevering and successful toil; distinguished above all things by a critical exactness as to facts, which makes it a model for every similar undertaking. Germany may well be proud of having produced contemporaneously two such laborers in this great domain of human knowledge.

It is Mr. Burke who speaks of Geography as "an earthly subject, but a heavenly study." If this description was justifiable then, much more is it so now, when our knowledge of the earth we inhabit has been enlarged, not solely by penetration into new lands and seas, but yet more by that close alliance with physical science in all its branches, of which we have just spoken; and which, while recording new relations of animate and inanimate nature on our own globe, denotes at the same time the many connections of terrestrial objects and phenomena with those belonging to the other worlds of planetary space. Physical geography, in its present aspect, is less a science in itself than a group of sciences blended by mutual services. It is the same correlation, and an admirable example of it, which is now giving a new form to the physical sci-

ences in their every part—the foundation already of great discoveries, and the fore-shadow of still greater to come.

Yet with all these attainments of modern geography, it is curious to note the prevailing want of a clear conception of the very phenomena on which this knowledge rests. How few of the many hundred millions who tenant the earth carry their comprehension beyond the physical conditions immediately surrounding them! How few, even of those better instructed, can truly conceive of the great globe on which they live,—loose, as it were, in space, and at every instant changing its place in the heavens; yet bound and tied by gravitation to the greater globe of the sun;—revolving every twenty-four hours on its own axis;—moving in its annual orbit with a rapidity above a thousand times greater than the speed ever attained by a railroad express; and, beyond all this, partaking in that mighty movement of the whole solar system, to which the astronomer sees no present limit of time or distance, nor any explanation of the forces, certain and vast though they be, which maintain this mysterious secular change. Those even to whom such astronomical conditions are familiar as facts, have difficulty in bringing the mind to comprehend these complex motions in space, fulfilled by forces which we can define only in their effects, though proved to pervade the universe of worlds.

How few again, save amongst those who traverse the great oceans, practically conceive of the rotundity of the earth, and of that relative distribution of the parts of its surface, making our colonies of Australia and New Zealand the antipodes of the little island which has sent forth its swarms to people and civilize this southern hemisphere. How strange, moreover, to those unused to such considerations, the fact that three-fourths of the total surface of the globe is deep ocean; obeying in its tides the attractions of the sun and moon, but except in this transient deviation, ever preserving the exact spheroidal figure which belongs to the primitive consolidation of the planet.

Then further, as to the structure of the great globe the surface of which we inhabit, how vaguely do we regard the wonderful problems it offers to physical research. Natural causes of elevation, dislocation, or

abrasion, together with the more partial results of mining and other human works, have disclosed to the geologist those remarkable successions of rocks—stratified or unstratified—recording anterior ages of life, or devoid of all tokens of it—which form the objects and the glory of his science. But this knowledge is superficial only, in the simple physical sense of the word. The inclination of the strata enables us to estimate depths of these masses far beyond those of the deepest mines, but still bearing the ratio of a few miles only to the diameter of the globe. We have further attained, by different means, some approximate results as to the specific gravity of the whole earth. All this, however, tells us little of the nature of the enormous mass of matter thus aggregated in the bulk of our planet; nor discloses, except by inference, the form and conditions of its aggregation. Such inference we chiefly draw from those curious observations in mines and artesian wells, which mark a temperature progressively increasing downwards from a neutral line near the surface, where external and internal causes of temperature balance each other. Below this line the heat augments at the rate of  $1^{\circ}$  Fahr. for every sixty-five feet; the uniformity of result in different localities sufficing to establish the fact; and the conclusion from it, that at certain depths, the mass of the globe must become a fluid material—some such, we may suppose, as that poured out from the smelting furnaces of our great iron fields. The explorer of living volcanos treads his way over a stream of fresh lava, upon the thin crust covering the molten matter which slowly flows underneath. We have our dwelling on a similar though denser crust; everywhere wrapping round that fiery central fluid, from which are derived the materials as well as the physical forces, producing earthquakes and volcanic eruptions; and the slower displacements by elevation or depression, which are ever changing in one part or other the outward face of the globe. The medium thickness of this crust, not known from certain data, has been variously estimated. It is another example of the wonderful relations between branches of physical science seemingly the most remote, that we should have a calculation by an eminent mathematician of the thickness required to satisfy the theory of

the precession of the equinoxes; in which estimate Mr. Hopkins has further sought, by consideration of the relative conducting powers of crystallized and uncrystallized matter, to conciliate his result with the observed increment of heat in descending below the line of neutral temperature.

The establishment of such relations is the great gain, as it is the glory, of the science of our day. Their unexpectedness in many cases gives an air almost of romance to the solution we thus obtain of some of the most profound problems of the natural world. We might readily add numerous instances of like kind, in which the science of geography is closely concerned. Such relations occur chiefly within the wide circuit of physical geography; as distinguished from that artificial division and nomenclature which man has imprinted on the surface of the globe; and which maps, in one form or other, technically express to us. Under the latter more limited sense, the term geography was long applied; and even now the methods of geographical instruction are too exclusively moulded upon this conception. Its first and most needful office, indeed, must ever be that of an index to the living history of mankind;—a relation including all ages, and every region of the earth, whether peopled by savage or civilized life. Man, while associated with other and innumerable forms of being around him, is supreme upon the globe. His history, though late in the succession of time, if we look to the fossil records of the rocks, is that which we everywhere find written on the actual surface of the earth. He alone of the animal creation penetrates by land or water into its every part, the frozen seas of the polar circle, and the torrid deserts under the equator; urged not solely by those instinctive necessities which he shares with inferior forms of animal life, but yet more by his intellectual faculties, and those passions and propensities, which are blended with and define his being.

But this human history itself, the especial object and office of geography, is closely bound in by the physical conditions, to which we have already adverted as associating our knowledge of the earth with all other natural sciences. Scarcely is there one of those conditions which has not some concern, direct or indirect, with the exist-

ence and well-being of man. His progress and diffusion over the globe; his disseverment into races and communities; his advance in civilization and the arts and refinements of life, have all dependence more or less upon these physical causes. Without adopting all the deductions of Mr. Buckle, we may cite, as familiar instances to this effect, the various incidents of climate;—of plain or mountain region;—of fertility of soil;—of mines yielding metallic ores or fuel; of proximity to the sea; of facility of internal communication. These and other conditions may severally be modified or annulled for a time by others; but they never can be inoperative. In his animal existence, man has the same necessities to encounter, the same struggles to maintain, as other animals in the world around him. But he brings to this battle of life faculties and endowments which give him mastery over many of the physical conditions to which other animals inevitably yield. The very nature of the struggle to him is such as to exalt his powers of intellect and action, and to raise him above those mere instincts of animal life, in which he participates. He alone has powers which enable him to govern and apply to use all the great forces of nature, even such as might seem too vast and violent to be submitted to human control.

While seeking thus to give the largest signification to the term of geography; and to inculcate the teaching it in connection with the physical phenomena of the globe, as well as the history of man, we must here restrict ourselves chiefly to descriptive geography, as commonly thus understood; and to those records of discovery by land and sea which form the main subject of the volumes before us. And here we may first note the great advances made in all the methods by which these researches are carried on; the larger scope and more exact definition of inquiry; and the completeress of its fulfilment. Whether exploring countries untrodden before, or surveying those imperfectly laid down, the traveller now carries with him resources unknown to those of all earlier date. Though not perhaps especially furnished in any branch of physical science, his eye is more open to the general aspects of nature, and to those relations which pervade all parts of it. The admirable instruments

which science now furnishes for familiar use, are further concerned in the change we are denoting. Even the mere summer tourists of the world have received more of the leaven of general knowledge, fitting them better to profit by what they see; and instances are frequent of those who, going forth without plan or purpose, have returned the discoverers of new regions, and imbued with zeal and ability for further enterprise. Our colonies, again, those prodigies of an empire spreading itself over the whole earth, have nurtured men ardent in discovery, and in the development of those natural resources, so largely reciprocating to the mother-country the prosperous existence she has given to her offspring. Australia, New Zealand, Canada, and the Cape are examples in point. In India also, and especially on its northern confines, much has been done by public and private enterprise; fettered indeed in many respects, if facilitated in others, by those fluctuating conditions of war and sovereignty, which have marked the growth of our Indian empire, and still in some sort impend over its destinies.

In estimating our knowledge of the earth's surface, it is rarely considered how very recent the far greater part of this knowledge actually is. A period of less than four centuries includes the whole of that career of discovery, which began with the great exploits of Columbus, Vasco de Gama, and other navigators of the same stamp, and has since embraced the whole circumference of the globe. The ocean, navigated under better knowledge of the figure of the earth, and with the magnet in the hands of the mariner, gave passage to the New World, and fresh approaches to continents before imperfectly known. The spirit of bold and romantic adventure, the appetite for distant and undefined dominion, religious zeal for the conversion of heathen tribes, the ardor of commerce, and the thirst for treasure less lawfully acquired, were all awakened at the same time, and concurred to the same result. True geography may be said to date from the end of the fifteenth century. Since that time its progress has been rapid and constant; stimulated not solely by the motives just mentioned, but also, and more honorably, by the pure love of that science of nature which holds the whole surface of the earth as part of its great domain.

We might here pause a while, to compare and contrast our present knowledge of the globe, with those vague and limited conceptions, which formed the sole possession of even the most eminent geographers of antiquity. But this topic is probably familiar to most of our readers; and those who seek to study its details will find them recorded in the volume of Humboldt's *Cosmos*, with the vividness which belongs to all his writings. Limiting ourselves, then, to a brief notice of this subject, we may remark, that the globular form of the earth, distinctly propounded and illustrated by Aristotle, was familiar in idea to many of the ancient geographers; but for the most part wrongly applied to the actual delineation of the known lands or seas; and affording, of course, no just conception of the surface yet unknown. Two, especially, of the most remarkable of these old geographers, Eratosthenes and Ptolemy,—men who stood in advance of their times,—founded their delineation of the earth on the astronomical and geometrical data furnished by the knowledge of the age; the happiest application of which was that already made by Hipparchus, in marking the position of places by latitude and longitude, upon the same principle, though rudely applied; as that now in use. The great work of Strabo is more purely descriptive, but very valuable as such, as well as in its reference to other and earlier geographers. Pliny's Geography is but part of his *Natural History*, and must be regarded in the light of a mere compilation. The work of Pausanias, limited mainly to the geography of Greece, is an example of what may be done for historical and classical research by the exactness of personal observation.

Of the geographers just named, it will be seen that all but one were Greeks in race and language. Three of these, however, wrote as citizens of the vast empire of Rome, at a period when this wonderful sovereignty had reached its widest extent; and under a succession of emperors—Trajan, Hadrian, and the Antonines—who held it for a long series of years in tranquil and prosperous subjection. Even at this time the Mediterranean formed the centre of all that could be called true geography. Conquest, colonization, or commerce had made well known all the countries immediately bordering on this great inland sea; and more or less per-

fectly what lay beyond, within the boundary of the Roman rule. Some portion, indeed, of the southern coast of the Mediterranean, between Carthage and Alexandria, was even better known at that time than it is in our own day. But beyond the boundary of the empire, geography was little more than a vague picture of regions fading in the obscurity of distance; or known only by idle and superstitious tales, which the ignorance of the age credited, and its learning could not contradict. Towards the west, the Atlantic cut off all but an imperfect knowledge of the coasts of this ocean, and of the islands nearest to them. The commercial voyages of the Phœnician people—wonderful exploits under the modes of navigation then in use,—form a striking episode in ancient geography; yet withal so obscure, that even the labors of Heeren have failed to throw much light upon it. On the eastern side, a certain amount of knowledge was extended through Persia and India, even to the confines of China; but becoming more feeble at each successive step of distance. On the northern boundary it was yet more speedily lost in regions of forest, arid plains, or morass; and the vague notices of Scythia, Scandinavia, Sarmatia, etc., attest the scanty acquaintance with countries which could yield little to conquest, commerce, or colonization.

From this mere outline of ancient geography, we come at once to that of our own day; passing over those intermediate steps of discovery, through which we have reached our present knowledge of the earth's surface. These discoveries are mainly, as we have said, the fruit of the last four centuries. From the decline of the Roman empire to this recent date, geographical knowledge, in common with all other sciences, either was stationary or actually receded within narrower limits than before. Though the earliest discoveries of the period just named—comprising new continents and oceans, and the correction of the errors of ancient geography,—are the most striking results of this burst of human enterprise, yet no pause has since occurred in the progress of discovery. The broad lines at first sketched out have been gradually filled up in the intervening spaces and the *terre incognite* of the earth continually narrowed in extent. The motive power of steam—that mighty



agent of our own time—gives new faculties and facilities for all such research. Yet while admiring the magnificent steam vessels, which now plough the ocean, and penetrate into the interior of continents, we cannot forget what we owe to those bold navigators of an earlier age, who accomplished many of these very voyages in small barks or boats, scantily provided with all that is now deemed needful to safety and success. The early English discoverers in the arctic seas may well be cited as examples of this hardy and intrepid race,—the worthy precursors of the men who in our own times have devoted themselves to this arduous service. We need not here catalogue the names of either date. They will stand recorded in all future history of geographical research.

Though we have spoken of the *terra incognita* of the globe, as continually narrowed by modern discovery, yet is the unknown portion, or that imperfectly known, much larger than is commonly conceived. We circumnavigate it, indeed, with a commerce so vast and various, that the whole ocean surface, save that around the poles of the earth, may seem to be under our knowledge and command. We doubt not that in the end, all of land also, really permeable or profitable to man, will be brought under like subjection. But, meanwhile, there are still large gaps and voids in the interior of continents and islands, the objects of speculation to science and of adventure to future travellers. And in noticing these, as we are about to do, we at once illustrate the matter of the volumes before us, and show what yet remains to be done, before we have thoroughly mastered the surface of the world we inhabit.

We may remark here, in passing, how greatly our estimates, both as to *Space* and *Time*, those two great elements of human knowledge, are disturbed by the neglect to obtain a just comparative measure for each. Taking *space* as that with which we are now concerned, it is certain that we measure it for the most part by what we see around us; and though this loose estimate has been much corrected by modern travel, and by science brought into connection with geography, yet is common understanding often curiously in arrear on this subject. This is true, not only as to the physical conditions of space, and its relative extent; but we bring our

scanty European standard also to the numbers, civilization, religions and social usages, of the various races peopling lands of which we know nothing yet but the coasts or borders. The philosophy of geography and of human history alike require that we should gain the widest possible horizon to our view; checking thereby those partial or false conclusions which a limited knowledge is ever tending to impose upon us.

We have already spoken of the improved methods and appliances conducing to the progress of modern geography. One of the most striking of these, and the instrument as well as evidence of progress, is the modern map: in scale, exactness, and beauty of impression, a vast advance even upon those of half a century back;—a more wonderful contrast to the vague and faulty outlines which come down to us from the middle ages under this name. And not only faulty, but faithless also; the voids of knowledge being filled up with mountains, rivers, and cities, either wholly imaginary, or drawn from such loose report, that blanks left would have been a better alternative. The rudeness of these early attempts is often curiously shown in the scraps of landscape brought in to fill up the simpler delineation by outline. In passing from them to the maps of our own days, we seem approaching the works of a new and higher intelligence. Nor is this impression a mistaken one. The modern map,—take as the most eminent instance, that of the Ordnance Survey of the British Isles,—represents and embodies in itself the highest attainments of science and art; nor could it have been produced without them. Of the consummate accuracy of this great work—its foremost and most essential quality—we cannot give more striking proof than in the facts showing the perfect triangulation on which it is constructed. This perfection is such that in the five bases employed (varying from five to seven miles in length, and some of them four hundred miles apart), the greatest difference between the measured length and that derived by mutual computation from the triangles, does not exceed three inches. Or, taking the side of any one triangle as a base, the same exact length will be reproduced, when computed through the whole or any part of the series of triangles employed. Those who are so far familiar with the subject as to comprehend the per-

sonal labors, the refinements of observation, and the nice application of the most delicate instruments needful to such operations, will appreciate all that is admirable in the results thus stated. We might name, as instances of their relation to other parts of physical science, the use of the Drummond Light for distance signals in the survey; and the observations made in its progress of the singular deflections of the plumb-line in certain places from the true direction of the zenith; showing local causes of disturbance, the study of which may hereafter carry us further and deeper in the knowledge of our planet. Nor must we omit to mention the aids given to the Geological Survey of England, by the perfection of the Ordnance Survey. These two great works have gone on together with equal success, and mutual illustration from the methods of labor and observation in each.

This excellence in the design and execution of modern maps is not limited to our own islands. Many of the national maps of Germany, France, Italy, and Russia are little, if at all, inferior in merit; and our Indian empire may boast of a Trigonometrical Survey, which with the railroads and telegraphic lines advancing towards completion under the restored tranquillity of our dominions, will in the end bring these vast possessions into parity with the greater part of the European continent. In Australia and Canada similar government surveys are going on, at once denoting and developing the resources of those great colonies.

A map, as all know, is the delineation on a plane surface of what in nature forms a portion of a sphere, or, in strictness, an ellipsoid figure. The several methods of projection or perspective by which it is sought to obviate or lessen error in this translation from a spherical to a plane surface, are taught in most elementary books. We advert to them, merely that we may add a few words as to the relative value of the map and globe, as familiar exponents of geography. The former serves to all special delineations of the earth's surface; providing for any requisite degree of minuteness, and becoming free from theoretical error in proportion as the scale is enlarged. From maps we best obtain the political divisions of the earth, and all those marks which man has impressed upon its surface. But the teach-

ing of geography in its larger relations, is best effected by the globe; that simple and cheap piece of furniture, which ought to be found in every house; giving us knowledge, not equally supplied by any map, of the great outlines of the world at large. The very ease with which its position can be varied contributes to this instruction; for here, as in so many other cases, the senses curiously overrule the reason; and by the constant collocation of the same lines under one aspect, the mind gets bound down to a single image, and its comprehension is narrowed or disturbed. To illustrate this, let any one simply turn a map upside down, and he will find eye and reason both perplexed by the inverted outline thus brought before him. Or, rotating the globe into various unwonted positions, every such change brings fresh and unexpected perceptions to the mind; dislodging errors, or teaching new truths. Thus, if we place the southern pole uppermost, we gain a due conception, not otherwise obtained, of the vastness of the ocean surface of the globe; of the singular disproportion of land in the N. and S. hemisphere; and of the curious pyramidal projection of the African, South American, Asiatic, and Australian Capes into this world of southern waters. Such instances might be numerous given; and they have the psychological interest, just denoted, of showing how much we lie under the domination of the senses, even in the familiar case of studying the geographical outlines of the globe.

Examples of this kind illustrate more especially that method or principle of geography which looks to the broader features marked by nature on the surface of our planet, and in this way best seen and understood. Enough has been said on the importance of diligently studying these relations as a part of physical geography; and in connection with other sciences which come into close kindred with it. Such study is now greatly aided by works on physical geography (among which that of Mrs. Somerville stands foremost in excellence), and by those exact and beautiful physical maps, illustrating the natural phenomena of the earth's surface, which we owe to the labors of Mr. Keith Johnston. One result, and a very profitable one, of this method of geographical study, has been the greater attention given to the physical history of the

oceans and seas. In two former articles of this journal, on Maury's work on the Atlantic, and Admiral Smythe's volume on the Mediterranean, we have sought to embody in the history of these two seas—more interesting to the civilized world than any others of the globe—all the conditions which rightly belong to geography, and are necessary to its completeness. This great domain of the waters of the earth forms a scantier part of our geographical knowledge than it ought to do; seeing the vast proportion of surface thus occupied;—the wonderful actions of oceanic tides, currents, winds, temperature, and evaporation ever going on; the unceasing influence of these phenomena on all the continents and islands washed or encircled by sea; and the certainty that during the lapse of former ages vast changes by elevation or subsidence have occurred over the whole area thus denoted. The ocean, in its different depths, is further to be regarded as the great receptacle for that waste of the land continually in progress; and at the same time as giving space and foundation for what may be hereafter new lands raised above its waters. We might yet further speak of the multitudinous forms of life tenanted by its successive zones of depth;—some of them, by slow and silent succession in earlier ages, forming those great deposits, which, altered and raised out of the waters, become the calcareous strata of our present geological series; others of these foraminifera actually building up new islands under our eyes by the working of incredible numbers, under the special instincts of their existence. Such facts may seem to appertain to what is technically termed natural history; but they belong in a larger sense to the physical history of the earth; and our knowledge of this earth can never be complete, or even exact, without comprising them under one general view.

The remainder of this article we shall occupy in a rapid survey of those researches, recent or still in progress, by which we are advancing towards such completion. England, as is her right and duty, stands foremost in these undertakings; drawing indeed upon Germany for many zealous and intrepid travellers, who in various parts of the world, Africa, Australia, and Asia, have aided in her enterprises. The mental and physical temperament of the German people alike fits

them for such labors; and their education is of a kind to bring these faculties into full action. This testimony is due to the men who have worked together with us in geographical discovery; the community of race showing itself remarkably in the persistence and power of endurance so needful to success.

We begin our survey with the oceans of the globe. Vast though their expanse is, it may yet be affirmed that every part of their surface has been explored, save only that which surrounds the two poles, and is encircled, if not actually covered throughout, perpetual ice. All other ocean tracts have been submitted to the commerce or curiosity of man. The Pacific, the widest stretch of waters, and that last known to us, is now familiarly traversed by those many and magnificent ships which connect us with our Australian colonies: by the American trade connecting California and Oregon with the Eastern States, and with China in the west; and by those adventurous whalers, chiefly belonging to the latter nation, which roam over every part of this vast ocean, until fully laden with the spoils of the greatest living tenant of its waters. Cape Horn, once the terror of southern navigators, is now rounded every day by vessels charged with the mineral treasures of Australia. The opening of trade with Japan will make more complete our knowledge of the western part of the Pacific, and of that extraordinary chain of islands of which Japan is a member; stretching across from the Russian territory on the north-west coast point of America, to the south point of Kamschatska, under the name of the Aleutian Isles; thence southwards, to Japan as the Kurile Islands; and southwards again to the Philippine Isles, and the denser and more irregular group of the Indian Archipelago. A line of five thousand or six thousand miles in length is included in this chain; so marked in character and direction, that it is impossible, on the simplest inspection, not to see its dependence on some single physical action or change, the nature of which geology may unfold to us hereafter. Meanwhile, we mention it, as a striking example of those curious relations of land and sea, which it is the business of physical geography, as a science, to study and define.

We have spoken of the poles as undiscovered parts of the ocean. Even this, how-

ever, is going a step beyond our real knowledge, since we cannot affirm either pole to be actually covered with water. No theoretical consideration requires it to be so; and the utmost stretch of discovery, northwards or southwards, has not yet reached to points where such conclusion could be finally drawn. Sir Edward Parry's daring journey upon the ice, to the north of Spitzbergen, was arrested before he had reached the latitude of  $83^{\circ}$ ; and we have no authentic proof, though many doubtful stories, of any navigator having gone beyond. The captains of the old whalers were not very scrupulous as to their latitudes; and there was little check upon the desire to make a romantic tale of their near approach to the pole. Though without direct proof, however, the notion of a polar sea or basin is that generally held and expressed on our maps; with the further presumption that if it could be entered and traversed, a direct line of navigation over the pole would bring the arctic Columbus through Behring's Straits into the Pacific Ocean; a polar instead of a north-western passage; and the line from the Orkneys into the Pacific little longer than that from London to New York. Such voyage, however, will probably ever remain a matter of dreamy speculation. Though the current which checked Parry's advance, by carrying the ice to the south further than his daily progress northwards, gives sanction to the idea of a circumpolar sea; and though some have held that the maximum of cold is at the magnetic pole, and not at that of the earth, we must still presume obstacles from ice or other causes, in this unwonted course, which no science or intrepidity could hope to overcome.

Nevertheless we cannot yet consent to abandon altogether this north polar enterprise. There still remains a channel of approach, almost wholly untried; easily accessible from our own shores; and free, as far as we know, from those local conditions of islands and ice-bound straits, which have perilled and perplexed all navigators in search of a north-western passage. We allude to the sea lying east of Spitzbergen, between these islands and Nova Zembla. Ten or twelve days of fair navigation from the Orkneys, even without the use of steam, would bring a vessel to the latitude of discovery in this direction; or if Hammerfest

were made the port of departure, half this time would suffice. A few summer or autumnal weeks, with navigation aided by steam, might go far to settle the question whether there is any such access to a polar basin: or what nearest approach is possible to this mysterious point, so important in the physical theory of the earth's rotation. Such research, moreover, might have results of more practical value. The whale and seal fishery of Great Britain, though still very considerable from the ports of Peterhead, Aberdeen, and Hull, yet, with respect to the whales at least, has notably declined of late years. Whether these animals have been thinned by destruction in their old haunts, or been led by their sagacity as mammals to seek ocean solitudes less infested by man and his harpoon,—certain it is that some of the whaling grounds, most profitable in former times, are now comparatively deserted. Recent voyages through Behring's Strait, supplementary to the quest of a north-western passage from Baffin's Bay, have disclosed a new field, already eagerly appropriated by the active whale-fishers of the New England ports. It may be, that some similar discovery will result from the exploration of the seas east of Spitzbergen; and we state this chance as a further incentive to research, in a direction hitherto unattempted, and with means in our hands unknown at any former time of arctic navigation. We own our desire that the nearest approach of man to the pole of his planet should be due to English enterprise.

Such desire is not inconsistent with the opinion we have formerly expressed as to the inexpediency of any other public expeditions on that arctic coast of North America where the labors and successes of our countrymen during a period of full forty years have given us so much to admire;—alloyed by one great calamity, which we can never cease to deplore. The name of an eminently brave and virtuous man, Sir John Franklin, is bound up with the final discovery of the north-western passage, so long sought for; and it is a melancholy satisfaction to know that he himself died in his ship, before that time of more frightful distress began, of which we are glad to be spared any further narrative or knowledge. The names of Maclure and McClintock will be joined to his in the history of the discovery, together with those of

the many gallant men who bore part, by sea or land, in the earlier labors and perils of the research.

But the object of the north-western passage once attained, those stern regions of barren isles and ice-bound seas may wisely be left again to their primitive solitude. The passage, shown to exist, is utterly useless for any human purpose. All that physical science can learn from these voyages has been already gained. The northern magnetic pole has been reached; and all the magnetic phenomena incident to the neighborhood of this remarkable point duly recorded. The coasts of continent and islands have been geologically described; their scanty fauna and flora fully catalogued; and all other natural phenomena of land and sea, during the short summers and long, dreary winters of these regions, diligently observed.

Looking to this quarter, indeed, we can see but one single motive or direction for further enterprise. This is furnished by the remarkable voyage of Dr. Kane; and the alleged sight of an open sea, stretching polewards, in latitude  $81^{\circ} 20'$ . Had this intrepid man been the witness himself to the discovery, we should implicitly have received it as such. But coming to him on the very inferior authority of two of his crew, and contradicted in parts by their own narrative, we must at present hesitate in believing more than that Smith's Sound, instead of a closed inlet, may be a passage to straits or sea beyond. Any further attempt to solve this doubt will probably be made by Americans, zealous to sustain the reputation of their countryman, in confirming the main result of his voyage.

From the northern, we pass by a large, but natural stretch, to the southern polar circle of the globe. The progress of discovery, for obvious reasons, has been far less active in this antarctic region. Its distance from the centres of human commerce and civilization; the vast preponderance of ocean in this hemisphere; and the greater cold of high southern latitudes; are all causes tending to check enterprise in this direction. Nevertheless, the active spirit of the time in which we live has found a vent here as well as elsewhere; and England has still kept her foremost place in the path of discovery. The bold enterprise of some of our South

Sea whalers first made known to us the South Shetland Isles, six hundred miles south of Cape Horn, and other portions of more or less continuous land beyond, or further to the east; the possible parts of an antarctic continent, which has so often been the theme of geographical speculations. The question of such a continent yet lies open to future research. Three national expeditions, English, American, and French, were engaged almost simultaneously, about twenty years ago, in seeking for its solution; taking Hobarton, in Tasmania, as their point of departure. Of these expeditions, the one under Sir James Ross, admirably commanded and provided, was far the most successful in all its issues. For two successive years Sir James Ross, already eminent as an arctic navigator, succeeded in carrying his ships nearer by several hundred miles to the antarctic pole than any preceding discoverer in these solitary seas. The extreme point attained in the first year was  $78^{\circ}$  S. lat.; the second season carried him a few miles further south, but on a different line of longitude. In these voyages and high latitudes, he traced a line of coast long enough to be designated as a continent, and made more remarkable by mountains, in many places equal to the highest of the Swiss Alps. The most wonderful of these is that named Mount Erebus—a living volcano, more than fifteen thousand feet in height; and further notable from its close contiguity to the southern magnetic pole. Sir James Ross reached a point within one hundred and sixty miles of this pole; which was found by observation, three or four degrees further south than the position assigned to it on theory by Gauss. Had he been able to reach this spot, which local conditions rendered impossible, his would have been the singular glory of planting the British flag on each of the two magnetic poles of the earth!—a triumph almost too great for the life of one man.

The other expeditions, commanded by M. d'Urville and by Wilkes, did not succeed in reaching any such high southern latitudes, as those long before attained by Cook, Bellinghausen, and some of our South Sea whalers. They effected little in the way of discovery of land; certain imperfect delineations of coast by the American expedition, being afterwards annulled by the more complete and exact researches of the English navigat-



ors. Some public controversy grew out of this matter, upon which we are bound to say, that Sir James Ross' statements and observations are those alone which carry conviction to our minds. Meanwhile, the major question of an antarctic continent still remains unsettled, as regards its extent in longitude, and its depth in latitude towards the pole. For any further knowledge in this quarter we shall probably be indebted to the whalers in these seas. Sir James Ross repeatedly mentions the great number of whales on the edge of the antarctic icy barrier; and Australia, New Zealand, and the Falkland Isles now furnish points of departure and repair, which invite to the vigorous prosecution of this arduous and exciting occupation.

Pursuing our sketch of the progress of modern geography, we leave these "regions of thick-ribbed ice," and come at once to the more habitable parts of the earth; and to Europe, as holding the first place in all that pertains to the history of civilized man. Yet here, in fact, there is little to record. European geography, in the common sense of the term, is well known in every part; the voids which remain belonging chiefly to physical geography, or to those departments of natural science which hold such close relation to the physical configuration and aspects of the globe. Certain provinces, nominally belonging to Turkey, and lying between the ancient Macedonia and the Danube, form the portion of Europe least frequented by travellers, and still imperfectly described in maps. It must be further admitted, that the complete geographical exactness required for nautical and other purposes is yet wanting in several parts of the European coasts, and has only of late been thoroughly attained even in our own island. Twenty years ago, errors still existed in the longitudes of some points on the south coast of England; minute indeed in amount, but yet needing the correction they have since obtained. Exactness is the essence of modern science; and in this case, practical reasons strongly concur with what is demanded by theory. Such exactness has been admirably applied to the measurement of arcs of the meridian; of which, that completed by Russia a few years ago, stretching over more than  $25^{\circ}$  from the mouth of the Danube to the polar sea, is among the most perfect in execution.

Our subject takes a new and wider form, as we pass forward into Asia;—that vast tract of continent stretching over an area five times that of Europe;—the seat of the most ancient, populous, and powerful empires of the world;—and the source, at successive periods, of those great migrations which have given races, nations, and languages to every other part of the globe, America even included. With these matters of history and speculation, deeply interesting though they are, and closely bound up with the geography of Asia, we have no present concern. The progress and actual state of geographical discovery in these wide countries it is not easy to delineate. The gaps in what we know of them are at once vast and irregular. India, indeed, is the only part of the Asiatic continent which has yet been thoroughly surveyed; and we have already spoken of those conditions, physical and political, which assure the completeness of our future knowledge of this noble appendage to the British Crown. Two arcs of the meridian have already been measured in India;—the second (completed by Everest, and extending over sixteen degrees) one of the most perfect ever surveyed. The great range of the Himalayas—embracing points of elevation which exceed by a perpendicular mile any other known heights in the world—has been penetrated through in various places, and its southern declivities explored;—not indeed without peril and some loss of life to the adventurers, among the wild and bigoted Tartarian or Mongolian tribes inhabiting these Trans-Himalayan regions. We might name very many English travellers of the last thirty years, who have signalized themselves in this great field of research, and some of whom, as Cantley, Falconer, Hooker, and Thompson, have combined large discoveries in natural history with eminent services to geography. The latest, and not least successful explorers beyond the Himalayas, are three Germans, the Brothers Schlagintweit, who penetrated northwards as far as Khotaro; examining the courses of several rivers all flowing in that direction, but speedily lost to our knowledge in these wild and unfriendly regions, which seem even more difficult of approach than when Marco Polo traversed them six centuries ago. We lament to state, that one of these brothers, Adolphe, perished by the hands of

barbarous tribes in Turkistan—one more added to the number of martyrs in the cause of geographical discovery. The magnificent work recently announced by Messrs. Brockhaus of Leipzig, which is to impart to the world the results of Messrs. Schlagintweit's mission to High Asia, will consist of no less than nine quarto volumes of scientific text and an atlas of three folio volumes. If we may trust the promises of the prospectus, it will be one of the most splendid and complete publications of the age.

Russia comes next to England as a civilized possessor of Asiatic territory;—a tract forming one-third of all Asia in extent; but barely accessible in its coasts, harsh and untoward in its general climate, and in its northern half habitable only under the rudest and scantiest conditions of human life. The methodized activity of Russian administration is testified, however, throughout every part of this vast dominion. Not only in its newly acquired Caucasian provinces, but also throughout the endless wilds of Siberia, it maintains supremacy over both settled and nomad populations, by an organized machinery for all purposes of government; for colonization by free settlers or exiles; for overland traffic and the working of mines; and for the survey of the country by geographers and engineers. The protection and aids furnished to foreign travellers in Siberia may be set down to a prudent as well as generous policy. It is well known how many German naturalists—Pallas, Humboldt, Klaproth, Wrangel, and Ehrenberg, among the number—have aided, officially or otherwise, in Siberian explorations. The English travellers, fewer in number, and with less determinate objects of pursuit, cannot, with the exception of the latest of them, Mr. Atkinson, be said to have contributed much to the geography of this region. Sir G. Simpson, in the new and extraordinary circuit he made of the globe, traversing the Hudson's Bay territory from ocean to ocean, and the whole extent of the Russian empire from Kamtschatska to the Baltic, took one of those accustomed routes across Siberia, which connect together the sparsely scattered oases of human habitation in this country. The substantial progress made and still making in Siberian geography, is greatly due to the Imperial Geographical Society, which gives direction and aid to the labors of the scien-

tific travellers sent on these remote missions of discovery. The names of Orloff, Ussultzoff, Radde, Veniukoff, are already known by their successful researches, chiefly in the provinces to the east of Lake Baikal, in the valley of the Vittino and other tributaries of the Lena; and further to the south along the borders of Chinese Tartary, and among the rivers which flow into the Amúr. The latter river, ranking as one of the largest rivers in the world, though *beyond* the Russian frontier, has been officially surveyed in various parts of its course; and the extent and configuration of its vast basin approximately ascertained.\* We have a right to presume that other motives beyond geographical curiosity have prompted these particular researches. The Chinese have conceded to Russia the mouth of the Amúr; useless to themselves, but prospectively very important to Russian relations with the eastern Asiatic empires. By far the most important contribution to the history of these regions is to be found in Mr. Atkinson's second and recent publication on the Upper and Lower Amúr—a work which derives equal interest from his well-stored portfolio and from his pen; though we confess we should have read the narrative of this traveller with greater scientific confidence if his adventures had been somewhat less romantic and his love of the picturesque less strongly marked. It is impossible to overrate the importance of the Russian settlements on the Amúr to that empire, as, what the Germans call, a World-Power. Her navy is thus released from the land-locked seas which bound the Baltic and Black Sea coasts; and Russia finds herself in a commanding position in the northern seas of China and Japan at the very time when these territories are becoming more nearly connected with the rest of the world. This consideration gives a very high degree of interest to Mr. Atkinson's travels; though, as regards the Russian settlements on the Lower Amúr, his latest volume does not entirely redeem the promise held out by its title.

Of the northern portion of Siberia, bordering for some thousand miles on the Arctic Ocean—the country of the Samoyedes and

\* In the Journal of the Geographical Society for 1858, will be found the translation of a long and very valuable memoir on the Amúr, the result of this survey.

other half-starving tribes—we have little to say, since very little is known, beyond the course of the three mighty rivers, which traverse it in their passage from the central parts of the continent to the sea. The exit of these rivers is such in latitude that they could never minister to external commerce, even were the countries through which they flow more prolific of produce than they are likely to become. Baron Wrangel has been the intrepid explorer of these high northern latitudes in Siberia, and we owe to him most of what we know of them. His expedition over the ice from the mouth of the Lena towards Behring's Straits ranks as one of the most arduous feats in northern enterprise. We further obtain from him a confirmation of the facts before furnished by Pallas, Middendorf, and others of the enormous deposits of the tusks, bones, and even carcases of elephants, on the banks and near the mouths of those great Siberian rivers, which enter the sea beyond the arctic circle;—a strange problem in natural history, and hardly yet solved, even by the ability which Sir C. Lyell has brought to bear upon it.

We have just spoken of Chinese Tartary, and this notice brings before us that vast central region of Asia, two-thirds of which is thus denominated—a vague name for a vague dominion. The other or western part of this region is as vaguely known under the name of Independent Tartary; the whole area stretching from the Caspian and Sea of Aral to the coasts opposite Japan, with a breadth in latitude of from twelve to twenty degrees—a space wellnigh doubling Europe in total extent. Scarcely can we give the name of geography to the scanty and broken knowledge we have of these countries. We may be said best to know them, though this also very obscurely, through the history of those successive swarms and races of people, which migrated thence as invaders or settlers of the more fertile and temperate regions of Southern Asia and Europe. No field of geographical discovery equal to this in extent and interest exists on the globe. Little more than the mere margin has yet been passed by the civilized travellers of our own day; but here again we must refer to our countryman, Mr. Atkinson, as one of the most intelligent and successful of these. His travels during several years, which were

undertaken for the express purpose of depicting the scenery of a continent hitherto so little known to civilized man, carried him through many unexplored parts of the Altai chain and Kirghiz deserts, forming the border line of Russian and Chinese empire. The Russian government is actively pursuing research in this direction; but it is still only a frontier to the enormous tract of almost unknown continent described above; and Central Asia yet remains a sort of mythical region to our knowledge. Even aided by the authority of Humboldt and Klaproth, we can hazard little more than conjecture as to its physical outlines and geography. Taking the Altai and Himalayan chains in their extreme prolongation, as forming its northern and southern boundary, we have as an intervening belt those vast Mongolian and Tartarian steppes, vaguely called in part the Desert of Gobi; elevated more than four thousand feet, and stretching, it is believed, fully four thousand miles from east to west. We have reason to suppose these steppes to be traversed or interrupted by other mountain ranges, parallel, we may presume, to the great border chains; and the journey of the brothers Schlagintweit indicated one such range of great elevation, which they believed to be identical with the Kuen-Luen chain of Humboldt. But we cannot go further here than to point out this part of Asia as a wide field for future adventure;—adventure sanctioned not solely by common curiosity, but by the certainty of finding, in its physical character and natural history, objects of high interest to science. The fauna and flora of a region so peculiar in position and surface, must needs afford much that is new and curious to the naturalist; while the ethnologist may perchance discover here some rudimental traces, serving to the better understanding of those vast migrations, by which the shepherds of the steppes of Central Asia have more than once shaken the world.

The geography of China Proper is becoming every day better known, through that strange medley of simultaneous war and commerce which for many years has been our normal relation to a people equally singular in their language and religion, as in all their institutions and usages of life. Yet this knowledge is still very much confined to the maritime provinces, and probably does not equal that acquired by the

Jesuits, during their early and successful missions to China. The journey accomplished by Huc and Baudot from Peking to Lassa, affords recent proof of what may be effected by that corporate zeal, which, while usurping the character of religion, has given such continuous vitality to the wonderful institutions of the Roman Catholic Church: but in this, as in some other instances, the zeal of the missionaries for the triumph of their faith, and perhaps the simplicity of their characters, detract considerably from the services they might have rendered to scientific investigation. Our former diplomatic missions to Peking, even though returning across the empire, have travelled under such close constraint as to make very slender additions to our knowledge of its vast interior. The more recent voyage of Lord Elgin up the Yang-tze-keang to Hankow, six hundred miles from the mouth of this great river, the *girdle* of China, forms a remarkable step in the progress of Chinese discovery. It is a stream doubtless destined hereafter, under the agency of steam, to become one of the great watery highways of the world. Population clusters in crowded cities along its banks, and cultivation is rich in its tributary valleys. It gives opening to that wide western portion of China, of which we know little save from native report; but which may hereafter, through this channel, enter largely into the traffic of nations. The establishment of a British factory at Han-kow, which would create a market to European trade in that part of the empire, and open the navigation of the Yang-tze-keang to our ships, is strenuously advocated by the naval officers who accompanied Lord Elgin in that expedition. What the events now in progress in the empire, from European force and native rebellion, may bring about, we hardly dare surmise, so often have all expectations been frustrated in this quarter. But half a century now is more prolific of change than any five centuries heretofore; and China, with all its immobility of ages, cannot escape that tide which is sweeping over and amalgamating, through commerce or conquest, all other nations of the earth.

Those portions of Asia which appertain to the Persian and Turkish Empires, though better known than the interior of China, yet present still great *lacunæ* in our knowl-

edge; and are nowhere laid down with the exactness which modern geography requires. The more perfect examination of these countries will have a further and higher interest in illustrating the history of the most ancient periods, and most remarkable races of mankind. It is a region where fable and reality come concurrently before us;—sometimes in conflict, sometimes in mutual illustration. The wonderful results of the labors of Rawlinson, Layard, and Botta in the ancient Assyria, and those more recently obtained by Mr. Graham in the Hauran, the scene of the deplorable events which have again drawn a French army to the coast of Syria, are the augury and index of what may be accomplished by further research. We still want the more ancient links which connect together the several branches of the Aryan and Semitic races, their languages and migrations; and it is in these regions of Asia, if anywhere, that we may look for such illustration. Spectral shadows of history, they must be at best; yet worth all that labor and enterprise can do for their recovery.

There yet remains a portion of Asia, almost equal to half of Europe in extent, but which, from position and physical characters, might better perhaps come under the African division of the globe. This is Arabia; separated from Africa only by that long and narrow cleft, which filled from the Indian Ocean, has borne from ancient time the name of the Red Sea. Along this extraordinary gulf continually pass those magnificent steamers which connect England by the shortest transit with her Indian Empire;—the electric telegraph has been laid underneath its waters;—the fortress of Aden, our Gibraltar of this sea, guards its narrow egress into the Indian Ocean;—the mountain group of Sinai, and the two cities which cradled the religion now dominant in the east, lie upon its Arabian shores. And yet the vast tract, forming the whole interior of Arabia, is completely a *terra incognita* to geography;—its physical aspects, its animal and vegetable products, its human population, all alike unknown to European eyes. Even the boldest map-makers have not gone beyond a narrow coast margin, with some imaginary mountain ranges, and a few vague lines of native travel from the Red Sea to the Persian Gulf. But inference comes here

in the place of observation. The absence of any great river estuaries on its coasts, the character of the adjoining countries, and the scanty notices obtained from native sources, all justify the belief that the interior of Arabia is a vast sandstone desert; with scattered oases like those of the Sahara, the vague domiciles of wandering Arab tribes, who feebly represent that extraordinary race, which in the seventh and eighth centuries, under the fervor of a new faith, conquered or shook some of the greatest empires of the world. That such events should have had their origin on the coasts of that desert region, is a fact which history records, but cannot easily explain.

From Arabia we pass by a short stop to Africa;—a continent abounding from the earliest time in geographical problems, several of which are even now only partially solved. The question as to its being circumnavigable or not; as to the sources of the Nile; the extent of the Great Desert; and the existence beyond of lofty mountains and a great river flowing eastwards,—these were points of speculation to ancient geographers, from the time of Herodotus to Ptolemy, Strabo, Seneca, and Pliny. We have no space to enter fully into these subjects, or into the Arabian researches in Africa several centuries later. We must limit ourselves to the notice of recent discoveries only; and even this more briefly than is due to their real and relative value. It is a continent we may well seek to know more intimately; not merely from curiosity or the contingent benefits it may afford to commerce and manufacture, but for the better prevention of the curse of slavery which has long hung heavily over this part of the world. Looking to extent only, it forms pretty nearly a fifth part of the total land of the globe. On a rude estimate we may say that one third of this vast area is wholly unknown; another third so scantily known, as to furnish little more to maps than the single lines of travellers or caravans. The portions thus described form the great interior of the African continent. Its coasts are in every part more familiar to us;—a knowledge dearly purchased by that cruel and disgraceful traffic to which we have just alluded. But the best general notion of African geography may be gained by taking successive

zones of latitude from north to south; which division, suggested by diversities of physical aspect, as well as by the direction of recent discovery, we shall here adopt.

The northern zone, bordering on the Mediterranean, from Morocco to Egypt, is that best known to us. Algeria, to the distance of more than three hundred miles inland, and including the several ranges of what are called the Atlas Mountains, has been thoroughly surveyed by its French possessors; while Egypt and the valley of the Nile are becoming as familiar to us as the courses of the Rhone and the Danube. Morocco, Tunis, and Tripoli are less perfectly known as they recede from the coast; but their proximity to Europe makes it certain that these countries will eventually be opened, either by conquest or commerce. South of this coast zone comes that of the Sahara; a name vaguely applied to the greatest desert of the globe; stretching its high and sandy plateau from the Atlantic to the confines of Egypt and Nubia; with an average breadth, ill defined indeed, of at least eight hundred miles. Various lines of travel and traffic traverse this wilderness, determined chiefly by the oases scattered over its surface; some of these large enough to give abode to wild tribes of the Touarik and Tibboo races; others mere patches of vegetation around the springs which here and there well upwards from the arid surface. The most extensive exploration of the Sahara which has yet been made is due to Colonel Daumas of the French staff in Algeria, and M. Carette, whose reports were reviewed in this journal some years ago.\* The first modern travellers who crossed the Sahara from Tripoli to its southern border were Denham and Clapperton, in 1822; followed, after the intervention of other less successful efforts, by the expedition, familiar to our readers, of which Dr. Barth alone survived to relate the history. The names of his companions are added to the record of the many martyrs of African discovery, who have succumbed under the malign influences of climate, privation, or the fanatic cruelty of the native tribes.

Dr. Barth's volumes, though somewhat arid in style, like the country they describe, give a faithful picture of the physical aspect

\* Ed. Rev., No. clxix., July, 1846.



of the Sahara, and of the people scattered over its few habitable parts.\* But they have a higher interest in relation to what we would call the third African zone; stretching across the widest part of the continent, from the Guinea Coast to Abyssinia; and in its southern boundary, though very vaguely defined, coming within six or eight degrees of the equator. Strikingly contrasted with the desert plateaux to the north, this is a region of varied and mountainous surface; of rivers, lakes, and periodical rains; and, in effect of these conditions, a region of profuse equatorial vegetation; and with a large and prosperous negro population, where not blasted by Arab rule, or by the wars which minister victims to the foreign slave trade. The English and French occupy, by their settlements, the mouths of some of the chief rivers on the Atlantic coasts; and it was from this side that the first attempts were made by Mungo Park to enter the interior, to reach Timbuctoo, and to solve the mystery of that great river, flowing eastward to some termination then unknown. The northern line across the Sahara furnished the next access to this middle African region, accomplished by the intrepid travellers already mentioned. In a second expedition, starting from the Guinea Coast, Clapperton perished; but his bold and intelligent servant, Landor, returning, in 1830, by the same route into the interior, finally solved the question as to the Niger or Quorra, which had so long held geographers in doubt. To Dr. Barth, however, we owe our better acquaintance with the countries between Lake Tchad and Timbuctoo: while stretching southwards from this lake, he reached the banks of the Tchadda, of which the Niger is now found to be the western feeder. Entering the ocean at the Bight of Benin, this mighty river furnishes a third and more facile access to Central Africa; and, though the first attempts to ascend it were disastrous, or only partially successful, we believe this to be the channel through which commerce and civilization will chiefly find their future passage.

To the south of these remarkable countries comes another wide zone of this continent, which no European foot has ever yet crossed. The coasts on each side are known;

and especially those of the Portuguese settlements, bordering on the Congo, and in the vicinity of Mozambique. Though deeper ingress has recently been obtained on the eastern side, there still remains a tract equal to two-thirds of Europe in extent, utterly untrodden and unknown; a field for curious discovery, even if not otherwise rewarding European enterprise. The great physical question now pending as to this portion of Africa is, whether it be a country of lofty mountain ranges, ministering to periodical river floods by the melting of snows? or an elevated plateau or basin, the receptacle of the six months' equinoctial rains, and the feeder thence, through lakes or saturated morasses, of these river inundations? To Sir R. Murchison we owe the first clear suggestion of the latter view; and though still based chiefly on general physical considerations, all subsequent discovery has tended more or less to its confirmation.

In the introduction to Dr. Beke's admirable "Essay on the Sources of the Nile," and also in the remarks prefixed by Mr. Ravenstein to Dr. Krapf's "Travels in Eastern Africa," the great principles are clearly pointed out which have effected a total change in our conception of the physical features of the whole African continent. The principal mountain system of Africa is now found to extend from north to south, in proximity with the Red Sea and the Indian Ocean, instead of running from east to west across the continent, as laid down by all maps ancient and modern. Dr. Beke argues, that the fundamental cause of the erroneous notions respecting Africa is, that Europeans have always approached that continent in a wrong direction, and that the survey of the country must proceed, not from the deserts of the north, or from the fever-stricken rivers of the west, but from the plateau or tableland of Eastern Africa; where, in fact, the highly important discoveries of the Lake Tanganyika and Lake Nyansa have lately been made. In truth, however, the existence of these inland seas was undoubtedly known to the Portuguese geographers of the sixteenth century, and they are laid down in the older maps.

And here it is that we touch upon that sovereign problem of African geography, the true sources of the Nile; or of that western branch of this river, which, under the name

\* See Ed. Rev., No. cccxii., April, 1858, for a review of Dr. Barth's "Travels and Discoveries in North and Central Africa."

of the White Nile, brings down the great mass of its waters into Nubia and Egypt. It is a problem inherited from the earliest ages, and has an interest well sanctioned by the singular features of this wonderful stream. In an article before alluded to, on the Mediterranean Sea, we spoke of the Nile, as the most remarkable river of the world; as well in its physical characters, as in its associations with human history. In mere length and volume it is surpassed by some, though by few only. Other tropical rivers have their periodical inundations: but none come recorded to us for a period of many thousand years, as giving not fertility alone, but its very soil and existence to the land of Egypt. No other river on the globe has the physical peculiarity of flowing for the last one thousand two hundred miles through rainless regions, and receiving not a single stream for this vast distance. Without noticing other physical singularities, as the Etesian winds, etc., we may simply advert further to what Sir T. Brown calls "*those wild enormities of ancient magnanimity*,"—the wonderful works of art, labor, and magnificence, which crowd the Nubian and Egyptian valley of the Nile; belonging to a time only faintly reached by fragmentary records, but forming in themselves a living history and picture of these remote ages. No river or region in the world puts before the eye of the traveller such marvellous memorials of the past.

Our classical readers will recollect the fine passage in the tenth Book of Lucan's "*Pharsalia*," in which Cæsar, inflamed by a passion for geographical discovery, exclaims to the Hiorophant Achoreus:—

"Tantus amor veri, nihil est quod noscere malim,  
Quam fluvii causas per secula tanta latentis,  
Ignotumque caput: spes est mihi certa videndi  
Nilivæ fontes: bellum civile relinquam."

The Egyptian proceeds to describe the mysteries which concealed, and which still conceal, the sources and the flow of the mysterious river:—

"Quæ tibi noscendi Nilum, Romane, cupidum est,  
Et Phariis, Persisque fuit, Macetumque tyrannis;  
Nullaque non ætas voluit conferre futuris  
Notitiam: sed vincit adhuc natura latendi."

The answer which was addressed to Cæsar,

must still be given by the learned president of the Geographical Society; of the great river thus characterized, the main source is at this moment still unknown. But a very short time will, it is our belief, solve the question. All former attempts to do so, from the exploration ordered by Nero, to the later enterprises of English, German, and French travellers, have been made by ascending the river from the north. In tracing the great branch, called the Blue Nile, to its sources in the Abyssinian mountains, Bruce gained a repute beyond the real value of his discovery. The origin of the White Nile, bringing a far larger volume of waters to the confluence at Khartoun, and clearly coming from a more southern region, was still to be found. Followed upwards as a large stream to within three degrees of the equator, it became clear that its sources lay beyond this line, and research now took a new direction; that which gives the promise of final success. From the east coast of Africa, a little south of the equator, the missionaries Krapff and Rebmann penetrated westwards, far enough to come within sight of mountains seemingly capped with snow; and, if really so, at least eighteen thousand feet in height. These travels, related in a work lately published, have been followed by the far more remarkable expedition of Burton and Speke; the narrative of which occupies nearly the whole of the last volume of the Geographical Society, and is also given, in a more popular and amusing form, in the two volumes recently published by Captain Burton himself. The main results of this expedition are briefly as follows: Even as early as three centuries ago, the Portuguese—a people of marvellous prowess in those days—obtained knowledge of one or more great lakes in the interior of Africa, east of Zanzibar; but these intimations were wellnigh lost to the world, until recently confirmed by the reports of native traders, who described to the consuls and missionaries on the coast, what might be interpreted, though vaguely, as an inland sea. The discoveries of Burton and Speke have done much to settle this question. From Zanzibar, 6° south of the equator, crossing a coast range of mountains, and proceeding westwards nearly six hundred miles, they reached the great fresh water lake of Tanganyika; one thousand eight hundred and fifty feet

above the sea, fully three hundred miles in length, and from twenty to fifty in breadth. This inland water they navigated so near to its north extremity, as to make it almost certain that no stream finds egress through the mountains which subtend it on this side. No such negative evidence, however, exists as to the still greater Lake Nyanza, lying about two hundred miles north-east of the former. The southern extremity of this lake, here ninety miles in width, Captain Speke reached alone; his companion being detained on the road by illness. We may at once avow our belief that if any single lake-basin represents the main source of the Nile, Nyanza is that lake.\* From 2 1-2° south latitude, where Speke reached its shores, and nearly in the meridian of the White Nile at a point 3° north of the equator, this fresh-water sea, on credible native report, stretches far northwards; reducing the unknown intermediate distance to so short a span, as almost to force upon us the notion of connection and continuity. The level of Lake Nyanza was found to be nearly four thousand feet above the sea; an elevation that tallies well with all that is required by the physical phenomena of the Nile. Other lakes or morasses on this high level north of the equator, such as the Bahmel-Ghazal, recently described by Mr. Petherick, doubtless contribute to form this great river and its periodical-floods, under the influence of the tropical rains, common to the whole region. These rains, in their time, duration, and violence, can alone explain the Nile inundation. Admitting snow-capped mountains under the equator, the melting of such snow must be far too uniform to account for periods of flood thus strongly marked by the hand of nature. And as the poet Lucan observed, the period of the Nile inundation does not coincide with that of floods caused by the melting of snows.

Captain Speke left England again six months ago for the scene of his hitherto

\* It should, however, be stated, that Captain Burton entirely dissents from this opinion, which has been so ably advocated by his late companion. He argues, on the contrary, that between the upper portion of the Nyanza and the watershed of the White Nile, there probably exists a longitudinal range of elevated ground, and that the true sources of the "Holy River" will be found to be a network of runnels and rivulets of scanty dimensions, filled by monsoon torrents, and perhaps a little swollen by melted snow from the Eastern Lunar Mountains.

fortunate labors, and with the determinate object of following the Lake Nyanza into the Nile, if such connection exist. He carried with him various aids, but none of such efficacy as his own energy and experience. If he really does emerge from the lake upon the river, and thence follows the Nile downwards into Egypt, he will have accomplished the greatest geographical feat of the age. Two years at furthest will suffice to decide the question.

We have dwelt disproportionately on this subject, yet hardly beyond what its interest warrants, seeing especially the illustration these researches afford to the general geography of Africa, and to the discoveries of Dr. Livingstone in that more southern zone of this continent which is defined by the course of the Zambesi and its tributary rivers. The Portuguese, with settlements on each coast, were the first to traverse this part of the African continent; but what they thus effected was valueless to the world at large, and in its connection with the slave traffic pernicious to the country itself. Not so the better-directed and more intelligent enterprises of Dr. Livingstone, who has already placed before us a wide field for future culture; and whose present mission, though checked by some untoward beginnings, promises much as well for geographical science, as for the spread of a more genial European policy into this great river region.

To the several zones we have described as defining the geography of Africa, succeeds that extreme part of the continent extending from the Zambesi to the Cape of Good Hope;—a various region, remarkable in the races of its native population (amongst whom the Kaffirs in every sense stand foremost), and in the other forms of life tenancing its deserts, hills, forests, and rivers. Dr. Robert James Mann has given us a very useful and accurate account of the geographical features of the colony of Port Natal, which is probably one of the most salubrious and promising British settlements on the face of the globe. The southern extremity of the African continent which forms the Cape Colony and British Kaffraria has been made well known to us by the misfortune of military as well as civil operations. Now, happily, it has again become the seat of peaceful rule, and prosperous commerce and colonization.

We come now, by geographical sequence,

to the great island continent of Australia;—that land of problems and paradoxes in every part of its physical history; in nothing more strange than in its human relation to our own small island, on the opposite point of the globe's circumference. The first English settlers, chiefly convicts, landed at Sydney seventy-two years ago. A population of more than a million now dwells in these colonies; intelligent, energetic, and wealthy, possessing the political institutions and freedom of the mother country, and maintaining all the usages of English social life, even to the very pastimes which amuse and give vigor to our youth. A file of Sydney or Melbourne newspapers of this day may fairly be counted as one of the most curious documents in the history of our race. We have no room, however, to dilate on these matters, or on those strange peculiarities in its native fauna and flora, which distinguish Australia from all other regions of the globe. Many of these anomalies are becoming obliterated by the ingress of European life in its different forms. Here, as elsewhere, the white man is gradually displacing the colored races; bringing with him the animals and plants of another hemisphere to minister to the wants or luxuries of his new life. It is not, however, simple colonization which has peopled and given fortune to this new continent. The rush to the Californian gold region was still going on, when the discovery of still more prolific gold-fields on the flanks of the eastern mountain chain of Australia—a discovery sagaciously anticipated by Sir R. Murchison—directed a sudden stream of migration towards these distant lands, which four months of ocean voyage could not check, and which is still going on to enlarge their population and wealth. Upon this topic, however, it would be needless to enter here. An Australian literature—social, descriptive, and statistical—has grown up together with the other productions of this great colony; and there are parts even of our own island less familiar to us than the country around Sydney and Melbourne, or the gold-fields of Ballarat.

Still what we thus familiarly know is little more than the margin of the antarctic continent. From its eastern coast alone discovery has been extended to distances of seven hundred or eight hundred miles from the sea; and this in scanty lines and at the cost

of much privation and suffering to the adventurers. The larger portion of the coasts is known but by maritime survey, and the vast interior is still a void in our geography. In several respects, either proved or presumed, Australia has much resemblance to Africa in its physical features;—a circuit of coast, with very few inlets or gulfs; the highest mountain ranges on its eastern side; an arid saline desert within, touching in parts on the sea, particularly on that long and dreary line of southern coast, which Mr. Eyre with vast powers of endurance, successfully explored. The existence of this great central desert, the Sahara of the South, though not proved by actual passage across it, is attested to us in every way short of such proof. Without reciting the names of the many eminent travellers who have been engaged during the last twenty-five years, officially or otherwise, in their arduous efforts to reach the interior, we may state generally that from whatsoever point of direction ingress has been attempted, a waterless and barren desert has been eventually reached, frustrating all further advance. In this desert, entering it from the east, we have cause to presume that Leichardt and his companions perished. Of its eastern boundary we now know more from the recent and very remarkable journey of Mr. Gregory; who, going in search of Leichardt, traversed the continent by the long inland line from Moreton Bay (now the new colony of Queen's Land) to Adelaide, in South Australia. This traveller had already gained reputation and the gold medal of the Geographical Society for his eminent services in the North Australian expedition of 1855, which, entering the continent at the mouth of the Victoria River, proceeded to the S. and S.W. until arrested, about three hundred miles from the coast, by the same sandy wilderness which had already in so many places baffled the enterprise of the Australian traveller.

Other physical proofs of the desert character of this great central region are afforded by the paucity and scanty size of the Australian rivers, of which the Murray alone seems fitted for continuous steam navigation; and by those dry, scorching, and sandy winds, blowing from the interior, which are so *feelingly* described by all recent colonists. The suspicion of a central lake, though it cannot be disproved upon our present knowledge,

yet is now entertained by few. Many vast tracts of fertile country, profitable for settlement, will doubtless yet be discovered between the desert and the sea; of which the recent discoveries of Mr. Stuart to the northwest of Lake Torrens furnish a fortunate example. But taking its physical characters in their totality, Australia seems destined to become a *Coast Empire* only; though vast enough, as such, to satisfy all the imaginings of the future. It is impossible not to feel pride in the relation of England to this southern world. Whether it remain ours in colonial union, or be peaceably discovered by the events of the future (*peaceably* we say, because such a war as that of the American Revolution can never recur), Australia will be English in its language, literature, and political life. We shall not only have created a nation out of a wilderness, but shall have ennobled the people so created, by the gift of institutions, which the struggles and experience of centuries have happily won for ourselves.

Though the sovereignty of Australia is virtually conceded to England, and the most profitable parts of its territory already occupied by our colonies, we are led with Sir R. Murchison to regret that no settlement has been made on the northern coast. The proximity to the equator is a drawback; and we have reason to suppose the margin of fertile lands narrower and less productive. Still we cannot but believe that on the shores of the Gulf of Carpentaria, or elsewhere on this coast, there are spots profitable for colonization, for commercial intercourse with the Indian Archipelago, and for future overland communication with the northern settlements of the eastern coast. The energy, which has done so much for us in this region of the globe, will doubtless in the end accomplish the object to which we allude.

Our record of geographical research, however brief, cannot omit mention of the great islands which lie variously grouped over the vast spaces of the Indian Ocean. Madagascar, Borneo, and New Guinea, the three largest, covering six times the surface of the British Isles, are still scarcely known to us but in their coasts. Wherever adventure has been carried within,—and in the Indian Archipelago the Dutch, led by commercial instincts, have ever been the most active and

successful explorers,—these islands give large promise of internal resources, mineral and vegetable; while their fauna, including the races of men which tenant them, offers endless objects of curious speculation to the naturalist. Sumatra and Java are better known to us; the latter island, with its long line of living volcanos, forming part of that vast volcanic belt, nearly three thousand miles in length, which traverses the Indian Archipelago; skirting or crossing those crystalline and sedimentary formations, to which the same subterranean forces have probably given their island elevation, as well as the rare and precious metallic deposits seemingly so abundant in this region. The vicinity of this great island group to Australia will doubtless hasten that better knowledge of their geography and productions, which, considering their extent and position, it is fitting we should have. There are obstacles from tropical climate and savage population. But European enterprise has overcome these elsewhere, and will do so here. A handsome volume recently published in Amsterdam, under the title, "*Fastes Militaires des Indes Orientales Néerlandaises*," by Captain Gerlach, is the most complete record with which we are acquainted of the prowess and enterprise of the Dutch settlers in the East, which have enabled them to found a colonial empire and a trade in that archipelago second only to that of Britain.

The Philippine Islands have been vaguely known to us through the feeble sovereignty of Spain. Those, far more important, which form the empire of Japan, after sundry singular fluctuations of European intercourse, ending in its almost entire exclusion, are now opening themselves to our commerce;—precariouly, however, and under a certain compulsion, which we would fain hope may hereafter take a more settled and tranquil form. In a recent article we have spoken of Mr. Oliphant's valuable work, as one provoking the desire for further and more intimate knowledge of those islands; extraordinary in their physical features, rich in their productions, and peopled by a race peculiar in their language, and in their political and social institutions. Many curious questions will be solved by our closer intimacy with Japan. We earnestly hope they may be solved by peaceful intercourse: without those intermediate stages of strug-



gle and bloodshed which have defaced our relations with the neighboring empire of China.

There yet remains, to complete our rapid survey, that great double continent of the west, forming fully a third part of the total solid land of the globe. Wholly hidden from our knowledge until about three and a half centuries ago, the two continents of America are nevertheless now more familiar to us than many parts of the world which came within the scope of ancient geography. In North America the energy of the Anglo-Saxon race, whether independent or still under British sovereignty, has carried lines of travel across the most sterile and mountainous tracts between the two oceans; and to the mouths of the rivers which, issuing from a wild region of forests and lakes, empty themselves into the Arctic Sea. The active spirit of westward colonization in the United States,—the need of direct overland communication between the Eastern States and those newly created on the Pacific,—the successive abstraction of Mexican provinces on the west and south,—and even the absurd fanaticism of the Mormon immigrants—have all tended, within the last fifteen years especially, to open out these vast countries to our knowledge. Railways already traverse the prairies of the Mississippi and ascend the valley of the Missouri; while steamboats make their way up the latter river, a thousand miles above the confluence of these two mighty streams. The Rocky Mountains, the great watershed of this continent, are yielding their difficult and dangerous passes to the enterprise of traders or settlers;—the Indian tribes are disappearing under the pressure of this new race; and an overland post now performs regular journeys between California and the older states of the Atlantic coast. The able surveyors of Canada and the United States will speedily fill up the gaps which yet remain in the geography of the central and southern portion of the North American continent. By far the most important of these works is the narrative of the route from Canada to British Columbia, published by Professor Hind, of Toronto, who went in charge of the Canadian Assiniboine and Saskatchewan Exploring Expedition. The maps and illustrations of this publication are

of great scientific value, and it deserves especial notice as a contribution of the Canadians themselves to the knowledge of the vast territory which is the inheritance of their own descendants, and which forms so large a portion of the British American Empire.

The British possessions on this continent, lying to the north and west of the flourishing provinces of Canada, cover an enormous extent of surface, wellnigh equal to the total area of Europe, but hitherto solely or chiefly known to us as the great hunting territory of the Hudson's Bay Company.\* It disputes with the kindred region of Siberia the claim of being the greatest *fur-producing* country of the globe. The conditions of climate and surface are such that three-fourths of its extent will probably ever remain a breeding ground for the wild animals of the chase. But the eager spirit of enterprise has of late awakened the question whether the southern borders of this vast territory be not open to profitable agricultural settlement, especially along the valleys of the Saskatchewan and its subordinate streams. An exploring expedition sent out by the Colonial Office about three years ago, under Captain Palliser, in relation to this object, has already obtained many valuable results; among which we may especially notice the observations of Dr. Hector on the passes over the Rocky Mountains; showing certain of them to be lower and more facile of transit than any others yet known across this great mountain chain. The scale of operation, however, is so vast in these surveys, that it is needful to await their further extension, before any practical measure can be founded upon them. Meanwhile, we are rapidly gaining knowledge of our colony of British Columbia, on the Pacific side of the mountains; incited at the present moment by the golden harvest there, but justified for the future by the prospects of those more tranquil and lasting harvests, promised by a fine climate and fertile soils. It is our belief that Canada and this new colony of the west will eventually be united by a belt of settlements between the boundary of the United States and 52° or 53° N. L. But, even with the aid of railroads and contin-

\* See Ed. Rev., vol. cix., p. 122, for an article on the "Hudson's Bay Territory."

uous emigration, half a century may be required to work out this result.

The summary we have thus given of the actual state of geographical knowledge, will show at once the voids still remaining to be filled up, and the energy and intelligence engaged in fulfilment of this work. The number and extent of such void places in geography will probably surprise those not accustomed to large views of the world they inhabit. Another century, however,—per-

haps even less,—will make us masters of all that is really worthy of attainment. And as, in thus discovering new lands fitted for human habitation, it is clear that we are in effect providing for a larger amount of human life on the globe, we can but express our earnest hope that a higher and more diffused civilization may obviate or lessen those evils which are the appurtenances of an over-crowded world, and which put to severest trial the political, social, and religious institutions of mankind.

**GREAT COIN SALE IN PHILADELPHIA.**—Mr. Levick, Numismatist of No. 904 Broadway, reports the following list of extraordinary high prices for coins, realized at an auction recently held in Philadelphia:—

*Washington Pieces.*

Martha Washington, half dime, - -	\$17 00
Washington Cent, small eagle, - -	19 50
Washington Cent, different die, - -	59 00

*United States Cents.*

1793, Liberty Cap Cent, - - - -	17 50
1798, Cent, - - - - -	13 00
1829, Proof Cent, - - - - -	10 00
1831, Proof Cent, - - - - -	13 00
1843, Proof Cent, - - - - -	8 00
1854, Proof Cent, - - - - -	6 00
1855, Proof Cent, - - - - -	6 25
1856, Proof Cent, - - - - -	5 00

*Half-Cents.*

1793, very fine, - - - - -	5 00
1831, Proof, - - - - -	7 50
1836, Proof, - - - - -	7 75
1840, Proof, - - - - -	8 50
1842, Proof, - - - - -	23 50
1843, Proof, - - - - -	9 00
1844, Proof, - - - - -	11 50
1846, Proof, - - - - -	10 75
1852, Proof, - - - - -	4 75

*Colonial Pieces.*

1773, Virginia Half-Cent, - - -	5 25
1787, Massachusetts Cent, - - -	3 00
Pine-Tree Shilling, large Planchet, -	8 25
Pine Tree Shilling, shrub-oak die, -	6 00
U. S. A. thirteen-bar Cent, - - -	9 25
Pine-Tree Shilling, apple-tree die, -	5 25
Pine-Tree Threepence, - - - -	5 75
1662, Twopence, pine-tree, - - -	6 75
Counterfeit Pine-Tree Penny, - - -	5 63
Annapolis Shilling, 1787, - - -	8 00

*Experimental Pieces.*

1836, flying-eagle silver dollar (Gobrecht)	
fine proof, - - - - -	32 52
1838, flying-eagle Dollar, proof, - -	22 00
1839, flying-eagle Dollar, proof, - -	23 50
1849, pattern Three-Cent Piece, - -	14 00
1851, pattern Cent, in copper, - - -	8 00

1856, nickel Cent, - - - - -	4 00
1857, Quarter-Dollar, in copper, - -	2 63
1859, male Half-Dollar, silver, - -	8 50
1859, Cent, in copper, - - - - -	3 00

The sale of ninety-six copper cents amounted to \$281 17, and forty-eight half cents to \$135. Eight hundred and one lots brought \$2,057.

A GENTLEMAN residing at Marlow, whose larder was occasionally robbed by the "bargees," had a puppy-pie prepared, and planted as a trap. The larder was again assailed, and the pie carried off and eaten with great relish under Marlow Bridge on board a barge. Hence the galling interrogatory, "Who ate the puppy-pie under Marlow Bridge?" At some parts of the river we understand the question is, "Who ate the cat?" Where Father Thames flows by Cookham in Berkshire, the inquiry addressed to the bargees is peculiar: "Has he got his shoon on?" (Shoon = shoes.) The facts are these. It having been remarked that the bargees were "after" a calf grazing in the churchyard, the calf was withdrawn after dark, and a donkey substituted. Sheltered by shades of night, the bargees came, and walked off with the donkey, which they slaughtered, and partook of with much satisfaction. The dire repast concluded, not before, one of the party took up a foot of the supposed calf, and exclaimed, "He has got his shoon on?" "Who ate the leg of mutton?" "Who stole the goose?" are libellous insinuations addressed to the police. All this is English, and very English indeed; but "Who ate the donkey?" is Spanish. When the French troops were escaping from Spain after the battle of Vittoria, a party of stragglers entered a Spanish village, and demanded rations. The villagers, always hostile to the French, and now emboldened by the success of the British arms, slaughtered a donkey, cut it up, and served it to their hated foes (who were in a starving state and very glad to get it) *as veal*. Next morning the French, pursuing their march to the frontier, were waylaid by the villagers in a ravine, and many of them cut off; the Spaniards, during the murderous assault, shouting perpetually, "Who ate the donkey?"—*Notes and Queries.*

[From The N. Y. Leader—"People we Meet up and Down the Plaza."]

GEORGE RIPLEY AND THE BROOK FARM ASSOCIATION.

Of a little more than middle height—say about five feet nine inches—and endowed with that soberly habited plumpness of good condition which literature holds in reserve for the very few who manage to escape early out of that rugged and starved apprenticeship in which so many thousands of her votaries die, into the blest full pay and high auriferous prerogatives of fellow-craftship in the inner mysteries of her most mysterious workshop—this handsome and smiling gentleman, who might pass to the eye as only forty-five years of age, did not know, otherwise derived, add ten years to that figure—this man of pleasant though grave visage, is one of those famous critic authorities before whose Olympian nod even hard-faced publishers bow acquiescent heads, while all the acolytes of authordom are expected to fall down and worship. It is a large, benevolent head, thickly fringed with hair of a gray-russet tinge, curling closely inward. A thick and straight but not lengthy beard of the same color envelops all that part of the face on which such wool ought to grow, this capillary production only opening in the centre at times to reveal teeth remarkably white, large, and regular, disclosed by a smile of singular softness and benignity. To this picture add a nose which is a sort of compromise or fusion nose between the aquiline and Grecian orders; large and rather sparkling hazel eyes, only half seen behind the crystal discs of gold-rimmed spectacles; bushy and sharply arched eyebrows which have retained the hue of their youth better than hair or beard; large perceptive, analytical, and imaginative faculties, developed at the base and on the temples of a forehead indicating more than common benevolence in its height; small ears almost concealed in a brushwood of gray curls, and to these ingredients add a complexion which is healthy without ruddiness, a manner sedate without stiffness. Now jumble all these features up into the best sort of orderly human picture your fancy can afford to furnish on reasonable terms and at such short notice, and we guarantee that you will be possessed of a portrait enabling you to know Mr. George Ripley, literary critic in general, and special critic of the *Tribune* in this line, wherever you may chance to meet him. Mr. Ripley, as we have heard, was born in Greenfield, Massachusetts, about five years after the commencement of the present century. His family was of old New England stock, but to the credit of our subject be it said that he has not in the front parlor or any

other room of his house a brass-bound mahogany bureau, eight feet high, six wide and four deep, "brought over in the Mayflower on her immortal voyage." We deem it due to Mr. Ripley to mention the laudable absence of this or any such piece of furniture—the statement that he comes of "old New England stock" naturally laying him open to distressing suspicions of being one of the eighteen thousand inheritors of the eighteen thousand brass-bound mahogany articles of the size and origin described. Carefully nurtured and educated in his boyhood, he entered Harvard College in the usual course, quickly distinguishing himself both as a student and tutor of mathematics, and graduating with very decided distinction at the age of eighteen years. Soon after this the religious spirit which seems, either in the form of affirmation or denial, to be an inherent necessity of New England blood, diverted our young student from the certain pursuits and results of mathematics to an investigation of those higher but less demonstrable problems which are involved in religious belief. He passed from Harvard to Cambridge as a student of divinity, again winning collegiate laurels, but more by the dangerous acuteness of his analytical talent than from any confidence felt by his pastors and masters in the obedient orthodoxy of his views. Not to put too fine a point upon it, our geometry-loving divinity student could not be made orthodox in any degree whatever, viewing orthodoxy from the Trinitarian stand-point. His mind was so painfully involved by previous study in the methods and sure progressive steps of scientific logic, that nowhere could he find himself able to close a Trinitarian argument with the "Q. E. D." of Euclidistic certainty and triumph. Wandering off, therefore, into Unitarianism, he became settled as pastor of the Purchase Street Unitarian Church, in the city of Boston, about the year 1827, remaining a minister of this faith and a preacher to this congregation for about fourteen years. While in this capacity, having much learned leisure on hand—his fluency and varied erudition making the composition of his weekly sermons a thing of but light trouble—our mathematical Unitarian preacher next took a bold plunge, a long plunge, and a deep dive into the innermost mystical mysteries of psychological theology, as variously developed in the writings of Spinoza, Swedenborg, Klopstock, together with a large array of reverend Germans, whose names we must respectfully decline any effort to spell—this being the week preceding a presidential contest, and all our unwasted energies being required by our country for the great task of saving her from ruin, anarchy, and spoliation.

These German and other theologico-mystical studies had their natural polemic outcrop in a controversy very celebrated at the time—this was about 1839—Professor Andrew Norton, of Cambridge University, taking up the cudgels of orthodox divinity against the unpurchasable young pastor of the temple with a lucre-hinting name. This discussion attracted wide and eager attention during all the period of its pendency, the views of Ripley arresting attention by their startling novelty and force, while also commanding, by the erudition brought to support them, as well as by their wit and sarcasm, the interest of readers belonging to every creed. This controversy, giving the arguments on both sides, was printed in book-form and obtained a very wide circulation—the volume still lingering on many divinity shelves as a work of ready and accurate reference for all points embraced in the advanced formulas of the Unitarian creed. But the studies and discussions named, were not by any means the measure of our subject's mental activity and labors during the fourteen years of his combative and eloquent ministry. He published various writings of other kinds upon every sort of topic, the most important and valuable being a series of translations from the French and German entitled, "Ripley's Specimens of Foreign Literature"—in translating many volumes of which, however, he was of necessity assisted by literary friends. But the plan of the work was his own, and the fact that this series holds rank to the present day as one of the best American compilations, may be cited as evidence of the editor's judgment, and that his selections were made, not only with scholarly care, but also in happy accord with popular passions and emotions.

Coming down now to the year 1841, by which time this mathematico-religious *litterateur* had served as long in the church as Jacob served to obtain the embraces of Rachel—we are suddenly brought to a dead pause before another and very decisive development of a character fertile in all the resources and suggestions which mark the enthusiastic progressionist of this and other countries. Mr. Ripley had not been studying French and German literature—the poetry, philosophy, political economy and religion of those countries—without having awakened in his breast an earnest and overmastering desire to apply to practical test in the freedom of the United States those democratic-social theories which could only be indulged as mental visions by their less happy authors, subsisting under the censorship and powerful repressive systems of European governments. Benevolent by nature and democratic in all his convictions, Mr.

Ripley dropped the reverend prefix to his name, in 1841, assuming the axe of the politico-social reformer as he laid aside the ponderous gravity of the priest, and organizing in a company or phalanx of choice male and female spirits, called the "Brook Farm Association," the elements (as he and they then believed) of a moral and political revolution, which was destined not to pause till it had abolished all poverty, misery, and lawyers, all pride, envy, and property-holders, all slander, lust, and stock-brokers, all crime, prisons, and paid clericals. Had this experiment, commenced at Roxbury, about eight miles from Boston, proved successful, the Ten Commandments would have had an easy time of it through all future ages, and the recording angel's magnum bonum pen would not have stood its present distressing chance of being worn out before the prayed-for expiration of James Buchanan's term. The association embraced within its ranks many men and some few women who have since achieved eminence in various walks of literature and mental cultivation. Never before, perhaps, in the history of the world had so many brilliant enthusiasts surrendered their whole existence to the tyranny of one idea. This was a Fourieristic, democratic—social, or red republican experiment—all members of the phalanx, without distinction of sex, having to labor an allotted period each day for the common good, either on the farm or in the workshops attached to the main institution. All shared the same food at the same table; all owned a like portion of the property belonging to the establishment; all had equal access to the educational and literary advantages devised by Mr. Ripley. There were no servants on the premises, or rather no hired servants—all the male members being their own valets, and every feminine female member having to act as *femme de chambre* to herself. Before the association could sit down to breakfast any morning, the people composing it had to earn both appetites and their food by several hours of labor either on the farm or attending to domestic duties. Let it be remembered, moreover, that these devotees of social reform were persons of delicate breeding and education, of scholarly tastes and refinement—persons who probably had never tried manual labor before in their lives, and who had nothing to sustain them under its sudden rigor save only the divine entuzymuzzy to make the world better and happier than it had ever been before. Such was the glorious dream into which Ripley and many others plunged in the early spring of nineteen years ago—the only, or at least, the best record of their aims, experience, and existence, being now preserved in that very

curious and fantastic volume, by Nathaniel Hawthorne, called "The Blythedale Romance"—this future biographer of Franklin Pierce and future consul to Liverpool having been, at the time of which we treat, a social reformer on a grand scale, and in full practice, carrying on business about eight miles from Boston, on the Roxbury road. Rapid was the progress, in all aspects save the pecuniary one, made by the Brook Farm philosophers.

In the third year of their existence, the political stomach of the body became so indurated that the full theories of Fourier, previously diluted with much conservative water, became more palatable in the radical "neatness" of dram drinks. From 1844 to 1846, George Ripley, as the zealous and conscientious founder of the experiment, appeared almost constantly in public as the advocate and great exemplar of his faith. Gallantly did he and all those who were enlisted under his banner, combat against and struggle with the growing tide of troubles which beset this ill-starred though deserving enterprise. Chronic impecuniosity was one of the least evils the members had to encounter; hunger at times approached unpleasantly near to them; cold was often their companion as they sat at poorly furnished tables, or lay down to rest after days of harassing fatigue. Finally, in 1846, when matters had reached the very worst, Providence interposed in the shape of a grand conflagration, to save the pride of the many who were desirous to be free, but ashamed to be the first in demanding their release. The buildings of Brook Farm were burned to the ground one fine evening, and to this lucky incident we are indebted for the residence of Mr. Ripley in our city as one of its permanent celebrities and most successful critics. The length to which this sketch has already run will compel us to glance very briefly at the remaining facts of his curious, instruc-

tive, and romantic life. In 1847, George Ripley removed permanently to New York, first making his appearance as editor of the *Harbinger*, a brilliant, though erratic, organ of the Fourierite socialistic faith. In 1849, the journal named having died the death, he became associated with the proprietorship and editorial duties of the *Tribune*, that paper at the time being itself a socialistic experiment, all who contributed to work it having shares of some kind in the profits assigned to them. This connection Mr. Ripley still holds, being now a man of wealth and one of the principal editors of the New American Cyclopædia, commenced in 1857, and of which ten volumes are already published. His judgment is also retained, we believe, by one or more large publishing houses as the critic or "reader," who is to pronounce the fate of all ambitious manuscripts submitted for publication. As a critic he is of the mild type, always inclined to favor youth, and predisposed to judge kindly of any work not offensively pretentious while lacking any compensating merit. The sceptre of literary judgment in his hands is recognized as the symbol betokening a limited monarchy, hedged round with constitutional tendencies in favor of mercy, rather than as that skull-splitting, brain-scattering, intellectual South Sea Island war-club of which certain other critics, not possessing one tithe of Ripley's genuine ability to judge, would appear so peevishly enamored. In conclusion,—the subject being still fertile, but our space exhausted,—we have only room to say that Mr. Ripley is married to a daughter of Judge Dana, of Massachusetts, formerly minister to Russia; and we may also add (with a little pardonable pride to ourselves) that this is the only biography now in existence of a man whose history has been intellectually as remarkable and suggestive as that of any man in the present century.

THE "Saladin" has just brought to England the famous crystal throne, Shah Jehan's most valued treasure. When the Mahrattas took Delhi, they tried to destroy it by fire; but only succeeded in injuring its appearance, the heat causing it to crack and open out in seams. It consists of a single mass of rock crystal, two feet in height by four in diameter, and is shaped like a sofa cushion, with tassels at the corners.

A PEDESTRIAN traveller through the valley of Cashmere gives a glowing account of its prosperity. The soil is cultivated to the very top of the hills; roads are excellent; handsome bungalows and gardens meet the eye on every side; public edifices are rebuilt; and the people are everywhere busy and contented. "Happy Valley!"



From Chambers's Journal.

# SCIENCE AND ARTS FOR OCTOBER.

OF all the improvements by which London has of late been beautified or benefited, the one now in progress is by no means the least important. We refer to the sub-way, seven feet six inches high, and twelve feet wide, now constructing along the new street leading from Covent Garden to Cranbourne Street. Long talked about, a sub-way is actually commenced at last. It will be large enough to contain all the gas and water pipes required on the route; and when these are once in place, the service to the several houses will be laid on through small lateral passages, and all this can be done without disturbing the surface of the roadway. Those who know what happens in London when a leading thoroughfare is blocked because No. 17 is having something done to its gas, or No. 159 is laying on a larger supply of water, or some company is laying down bigger mains at the rate of a furlong a day, will best be able to appreciate the manifold advantage of a street where the surface will never need to be disturbed except for repaving. When repairs are needed, or alterations are required, the workmen will enter the sub-way by trap-doors, and work there while the traffic goes on as usual over their heads. Of course, the promoters of telegraphs will avail themselves of so convenient a receptacle for their wires: and, indeed, it is not easy to foretell the advantages that may hereafter accrue from such a mode of multiplying the communications of a great city. The Metropolitan Board of Works, to whom the making of this new sub-way is due, make known in their last annual report that the northern high-level sewer, a length of eight miles including branches, is approaching completion. It has a double storm-outlet channel; a double overflow chamber, one hundred thirty-eight feet long, and forty feet wide; and a sewer outfall, nine feet high, and the same in width. These measurements convey a notion of the magnitude of the excavations, and the enormous quantity of brickwork required. In its course, it passes under the Great Northern and North London railways. The high-level sewer on the south side of the Thames is to be nine miles long, and for some distance ten feet six inches high and wide. During the excavations at Deptford in July last, water burst in, and continued to flow at the rate of six thousand gallons a minute, so that a seventy horse-power steam-engine had to be erected to pump it out, and enable the men to work. The cutting for the outfall is begun in Plumstead marshes, within range, as it appeared, of the artillery; for one day the balls fell but a few feet from the diggers.

To prevent accident, the authorities at Woolwich have been requested to cease firing for a while, or take a shorter range. Those who take interest in the sewage question will regret to learn, that the Board have advertised for persons willing to undertake the task of utilizing the sewage—that is, intercepting the foul streams at their outfall, and converting them into a profitable fertilizer—but in vain.

Of improvements of another kind, there are now to be seen in Wellington Street and in Broad Street, St. Giles', new buildings of colored brick, which have a very pleasing and picturesque appearance. We are glad to notice that the taste for this kind of street-architecture is spreading; and when we remember what beautiful effects are produced with colored brick by builders in Lombardy, we can but desire to see more attention paid to such an excellent material in this country. Another means of embellishment has been suggested—namely, the offer of prizes for the best flowers, blossoming shrubs and thorns, grown in our squares; an acceptable idea enough, but how is successful flowering to go on in the smoky atmosphere of London? The restoration of the interior of St. Paul's progresses satisfactorily, and henceforth, besides the adornments, visitors will be gratified by the fine perspective view opened by removal of the organ screen.

The present age may be described as one of statues as well as of testimonials. Bolton is about to erect a statue to Crompton, the ingenious inventor, at its own cost: Spilsby wishes to have a statue to commemorate Sir John Franklin, because the town was his birthplace, but calls for help from other quarters: Taunton has set up a statue in honor of Admiral Blake—a worthy of whom Somersetshire may well be proud. And while art is advancing, we have the satisfaction of knowing, on the authority of Poor-law Reports, that pauperism is decreasing.

The Horological Institute, whose headquarters are within the classic precincts of St. John's Gate, not content with periodical meetings and a periodical publication, devoted to the essential improvement of horology, have established a class for instruction in geometry and drawing—subjects of first importance to clockmakers. The Society of Antiquaries have commenced the publication of a new series of their *Proceedings*, for distribution among their Fellows with greater frequency than hitherto. Papers read at the meetings will thus appear promptly in print, and excite, as is hoped, an active spirit of useful intercommunication, and impart animation to the Society's endeavors. Seeing that the king of Denmark has presented a paper to the Society of Northern Antiqua-

ries at Copenhagen, written by himself, on the antiquities of Denmark—that a countess gets a gold medal for the best photograph—that a duke has published, at his own cost, magnificent illustrated volumes of the Roman and other antiquities in Northumberland, it behoves “ordinary Fellows” to be on the alert indeed.—Two facts are worth mentioning which belong to the history of language; the study of English is now compulsory in the public schools of Norway; and the emperor of Russia has withdrawn the prohibition, which forbade the youth of Poland to receive college instruction in their own tongue.

The author of *Man and his Migrations* will have to record a new migration in his next edition, for the Tartars are still leaving the Crimea by thousands, to take up their abode in Turkey. For some reason, perhaps because they have been made to feel that they were too lukewarm in the great campaign, they prefer Mussulman rule to Muscovite.—The Persian government are considering a project for a railway from Trebizond to Teflis and Teheran.—England cannot find time to entertain the decimal system of weights and measures; among continental nations which have adopted it, Portugal must now be included, the decimal system having lately there become the law of the land.—Holland is thinking over “new maritime routes” from Amsterdam and Rotterdam to the North Sea.—The Victorians have dredged the bar of the Yarra-Yarra so effectually, that vessels drawing fourteen feet water can now get up to Melbourne. We learn by the last news from the colony, that a new expedition was about to start for further exploration of the interior, with Dr. Becker as naturalist, Wills of the observatory as astronomer, and camels as beasts of burden. Another fact, interesting to “intending emigrants,” is the disproportion between the sexes; for, excluding the female under twenty years of age, there are two hundred and seventeen men to every one hundred women throughout the colony.—The census of the United States of America has again been taken, and we are soon to have a summary of the results; meanwhile, it appears that the country has thirty thousand miles of railway, fifty thousand of telegraph, and twenty-five thousand acres of vines under cultivation.—A project is talked of for preventing the floods of the Mississippi, by doing for the great river what nature does for the St. Lawrence. The Canadian river, as is well known, never overflows, because the great lakes through which it passes absorb all the superabundant waters, and maintain it always at the same level. Hence, it

is thought, that by forming large reservoirs on the upper course of the Mississippi, where the country is favorable, a similar effect will be produced. It is a grand scheme, not beyond the power of modern enterprise; and as for the cost, the saving by prevention of floods for three years only would repay it. A project of the same kind is under discussion in France, where some of the river-valleys are liable to most disastrous inundations, and the only promising remedy appears to be that of compensation reservoirs. Another scheme is to connect the English Channel with the Mediterranean, by a system of canals from the Seine to the Yonne, the Saone and Rhone.—Russia is thinking of joining the Caspian with the Black Sea, by a canal from the Don to the Volga, but the idea is not a new one. Peter the Great ordered the work to be carried on during his reign, though nothing was done; and he was but a follower of Sultan Selim II., who actually commenced a canal in 1569, and employed twenty thousand prisoners on it for two years, after which he abandoned the work.

Some alarmists have raised a question as to the duration of the supply of that very useful oil, paraffine, because it is calculated that the Bathgate coal from which it is distilled, will be exhausted in eight years from the present time. There is, however, no occasion for uneasiness, for any kind of cannel-coal will answer the purpose, and this is met with in most of our coal-fields; large deposits, moreover, have been recently discovered at Pictou, Nova Scotia, and any kind of petroleum will yield paraffine—Rangoon tar, Trinidad pitch, and the asphalt of Cuba.

The new metal aluminum is taken more and more into use: a firm at Newcastle-on-Tyne have begun the manufacture of it on a large scale, in the pure state, and as bronze. Unexpected results have been obtained in experimenting with it as an alloy: twenty parts of aluminum with eighty of copper produce a metal which, to the eye, has all the appearance of gold. What a resource is hereby offered to the arts, useful and ornamental! Alter the proportions, and mix ten of aluminum with ninety of copper, and the result is a metal singularly hard, and of excellent application for pivots and bearings in machinery. We hear, too, of other ways in which aluminum is likely to be available in commerce and domestic life: in one respect, seeing that it does not tarnish or become discolored by exposure, it has the advantage over silver.

A remarkable experiment was tried at Schaffhausen, at the beginning of September,

being nothing less than an illumination of the falls of the Rhine by means of electric lamps. The effect is described as wonderful, for the rushing roaring stream in its whole breadth appeared as if changed into liquid fire.—Mr. Wilson of Philadelphia has invented an electric gas-lighter, by which a thousand burners or more can be lighted at once, and in different parts of a large city at the same time. Besides the requisite wires, the apparatus comprises a small voltaic battery, and one of Ritchie's improved induction coils. The battery is maintained in working-order at a cost of a shilling per month. Mr. Wilson having had his apparatus in successful operation for more than a year, and having produced a spark two and one-half inches long through six hundred miles of wire, has now brought it before the Franklin Institute of Philadelphia, as an invention which may be economically used in lighting the street-lamps and public buildings of towns. An obvious advantage arising from its use appears at first sight; namely, that the gas need not be lighted until the very moment that it is wanted.—It appears that the sewing-machine is employed in the United States on a scale far beyond any thing as yet attempted in England; it has, we are told, modified thirty-seven different branches of manufactures: £1,500,000 is set down as the annual saving in Massachusetts in the manufacture of boots and shoes, by the mere substitution of the sewing-machine for hand-labor. An equal sum is said to be saved in a year in New York by using the machine to sew the clothing of men and boys; £92,000 on hats and caps, and £170,000 on shirt-fronts. While publishing these totals, we think it well to inquire whether it is really pounds sterling or dollars that is meant.—Another very profitable invention is a machine for cutting hardwood veneers, by a knife, which obviates all the waste consequent on the use of a saw. By hardwood is meant rosewood, satinwood, zebra, and the like; and a correspondent, writing from New York, says: "Our principal pianoforte makers and others are using and will use none but knife-cut veneers. Sawed veneers are behind the age;

and a log which would have yielded but five hundred feet, now turns out a thousand, in half the time, and at a little expense."

Scientific readers are aware that the undulatory theory of light, though pretty generally accepted, is nevertheless on its trial, and liable to modification, as new facts are discovered. The question is one of first-rate importance, in a scientific point of view, and rarely admits of popular illustration; but in a paper read before the Manchester Philosophical Society by Mr. J. Smith, we find an account of a few interesting experiments, which may be repeated without the use of recondite appliances, and which appeal in a striking manner to the eye. Mr. Smith holds that the vibrations of the luminous ether are not such as science teaches, and that we may dispense with the notion that rays are of different refrangibility. He assumes that white light is the motion of an ether, while blackness is the state of no motion, and shows that certain colors—blue, red, or yellow—are producible by the alternate action of light and shadow—taking shadow to signify blackness. Cause a parallelogram of white card-board to revolve over a black surface with the same rapidity as the vibrations of light, and the color will appear to be blue or purple, according to circumstances. A disk painted with black concentric rings, on a white ground, becomes completely colored when swiftly whirled; the black and white disappear, and on a bright cloudy day the disk shows a light yellowish green, two different shades of purple, and a pink. Vary the shape of the disks, and the proportions of white and black, and all the colors of the rainbow may be obtained. Similar effects may be produced in shadows cast on a wall, or by rotating a black disk, in which openings are cut of a definite form, in front of a white cloud or screen.

From these and other experiments, Mr. Smith concludes that they "prove the homogeneity of the ether—the undulatory hypothesis, but not the undulatory theory—and that they help to explain many of the phenomena of what is called the polarization of light, and give a new explanation to prismatic refraction."

**A REGIMENT ALL OF ONE NAME.**—During the French revolutionary war, a regiment of volunteers was raised on the Border, all of whom were Elliotts and who invariably marched to the old tune of

"My name it's wee Tam Elliott,  
And wha daur meddle wi' me."

**FLORENCE** is making preparation for a grand exhibition of Italian fine art, to be held there next summer. Milan, Pisa, Leghorn, and the other principal cities, will co-operate with Florence by subscribing sums of money toward the expenses of the undertaking.